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THE MEDICAL RECORD.

A Semi-Monthly Journal of Medicine and Surgery.

EDITED BY

GEORGE F. SHRADY, A.M., M.D.

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THE MEDICAL RECORD.

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Original Lectures.

ON RELAPSING FEVER.

BY A. CLARK, M.D.,

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LECTURE I., FEB. 7, 1870.

I PROPOSE to occupy your time to-day in recounting to you the peculiarities of a fever which has appeared among us for the first time. It has been long recognized in England, Scotland, and Ireland, and has prevailed in an epidemic form repeatedly in those countries, and has been carefully studied by their physicians. It has been particularly well investigated by Professor Henderson, in 1843–4, and by Dr. Jenner, in 1847–8. Dr. Jenner proposed for it the name Relapsing Fever. Dr. Henderson, and the physicians who saw the epidemic of which he wrote, called it the "Epidemic Fever." It has been called the Five-day Fever, the Short Fever, the Seven-day Fever, and so by a variety of names. As it is believed to be connected with destitution, it has been sometimes called Famine Fever, though Typhus is more emphatically the Famine Fever. Until now we have seen little of it.

In 1844 a ship reached the port of Philadelphia having on board some sick emigrants. Of the sick passengers fifteen were received into the Philadelphia Hospital, and about the same number into the Pennsylvania Hospital. Those that were received in the Philadelphia Hospital came under the observation of Dr. Clymer, who recognized the disease as the fever that prevailed in 1843–4 in Scotland, and I believe in Ireland —the Relapsing Fever. It appears, however, that the disease was limited on that occasion to the passengers who came in that ship, except that in one instance a passenger had the fever at his own house, and his two sisters afterwards took it and were brought to the Hospital. Beyond this it is not known to have spread. In 1850–51 Dr. Flint, then living in Buffalo, attended quite a large number of emigrants who had typhus fever brought there from abroad, and found in summing up his cases that the results did correspond with the known history of typhus, and with records reported by himself previously. He then reviewed his cases, and threw out fifteen in which there had been relapses, and which he was satisfied were relapsing fever; but not expecting that disease, he had not recognized it at the time of their occurrence. With these two exceptions, it is proper to say, we have not seen the disease here at all. It is true Aitkin refers to Dr. Dubois as having seen cases here, but I do not know to what Dr. Dubois he alludes, and have heard no report of the existence of the disease in this country beyond the two instances I have mentioned.

The fever is so peculiar, so marked in its characteristics, that it can hardly be mistaken. I read at my Hospital clinique the other day the definition given of it by Aitkin. Perhaps I had better read it again:

"A continued fever, having a very abrupt invasion, marked by rigors, chilliness, and severe headache, vomiting, and often jaundice; a white moist tongue, epigastric tenderness, confined bowels, enlarged liver and spleen, high-colored urine, a frequent, full, and often bounding pulse, pains in the back and limbs, restlessness, and occasionally delirium. These symptoms abruptly terminate by an exceedingly copious perspiration, between the fifth and eighth day; and after a complete apyretic interval (during which the patient may be so well as to get up and walk about), an abrupt relapse supervenes on the FOURTEENTH day from the first commencement. The relapse runs a similar course to that of the primary paroxysm, and terminates between the third and eighth day. In some cases a second, third, fourth, or even fifth relapse may occur; death is apt to happen from sudden syncope, especially after the excessive perspiration, or from the suppression of urine, and coma. No constant eruption and no special lesion are associated with this fever."—*Aitkin.*

It is, you observe, a clean-cut description, and you see how much the disease differs from any form of fever we have been accustomed to see here. There are a good many points of difference between it and typhus, and typhoid. These are pointed out by Allison and Henderson. Allison regarded it in 1843 as a variety of typhus. Henderson, witnessing the same disease, attempts to prove, and does prove, that it is a different affection.

Prof. Allison points out the following peculiarities, viz.:—

1. A duration of five to seven days, very rarely extending beyond the ninth, and its termination in a crisis.
2. The absence of the typhus or typhoid eruption.
3. The frequent occurrence of jaundice, with some fulness and tenderness in hepatic region, and vomiting of green or brown matter.
4. The unusual degree of sickness and vomiting.
5. The almost constant occurrence of relapse, which generally took place on the fourteenth day.
6. The termination in the great majority of the cases in profuse critical sweats.
7. Severe muscular pains during and after the sweating, and particularly after the relapse.
8. The mortality, which was very small.
9. In every pregnant woman under his care abortion occurred.

Prof. Henderson, however, says: "It would be highly unphilosophical to refuse to account those, different kinds of fever, and to grant them different appellations, which differ widely, not in degree only, but in the nature of their symptoms, and which cannot be traced to one contagion, but in a very remarkable manner to two." He states that exposure to typhus never produces the "epidemic fever," as the relapsing fever was then called; and that exposure to the "epidemic fever" never produces typhus, but that each produces its like, and nothing else. Prof. Henderson cites cases to show that one of these diseases does not protect the person who has had it against the other. Some were attacked

with typhus soon after they had had the epidemic, and some took the epidemic disease only a few weeks after typhus. He found that when typhus and the epidemic fever were prevailing in the same district of the city, the epidemic fever came to the Infirmary from dwellings where that fever only existed, and never from those infected with typhus, and so contrariwise.

He also contrasts the symptoms of the two diseases, as Dr. Allison did. To him, therefore, is conceded the credit of having first wholly detached relapsing fever from all connection with typhus (which for him at that time included typhoid fever), and giving it the position of a distinct affection.

Prof. Henderson attaches importance to the different rates of the pulse in the two diseases. He found its average frequency in the first five days of typhus was 100 in the minute, while in the first five days of "the epidemic" it was 123. He says that great frequency of pulse in the early stage of typhus is a most alarming symptom, while the same degree of frequency in "the epidemic" is of little prognostic importance, it being often as high as 140 or 145 on the second or third day, without changing the usual favorable course of the disease.

He says that typhus when it reaches its natural limit declines slowly. "Nearly one-third of the whole duration of the febrile state being usually consumed between the period when the fever begins to amend and that of its total cessation." While in the epidemic: "In the ordinary course of things we find the individual who at one visit presented a temperature of 104 or 106, and a pulse of 130 or more, at the next, if the term of his fever had arrived in the interval, with a temperature of 98, and a pulse between 70 and 80."

He holds that a favorable change may coincide with a profuse perspiration in typhus, but never a total cessation of the febrile state, but urges that in the majority of cases such an occurrence "ushers in or accompanies a state of hopeless prostration, stupor, hurried breathing, and increased frequency of pulse." This he contrasts with the copious sweat and the accompanying defervescence of the epidemic fever.

Relapse, using the term to mean "a repetition of the same malady, through which the subject of it has recently passed," Prof. Henderson wholly denies to typhus. In 1,600 or 2,000 cases he had not met with a single instance of it. He had seen febrile attacks during convalescence attending some local inflammatory affection caught in the hospital. He says "it is as absurd to talk of a relapse of typhus fever as it is to talk of a relapse of small-pox or measles." For him, then, the relapse of the epidemic fever was a distinctive. and characteristic fact of relapse.

Now, as regards the possibility of relapse, I take issue with the learned doctor. Having myself been pretty well bathed in the poison of typhus, prescribing at one time for two hundred and fifty hospital patients daily, and that for a score of months, I must have acquired some familiarity with it, and I can tell you there are relapses in typhus fever. I have seen such evidences of it as would convince even Dr. Henderson or Dr. Perry. For example, I remember cases in which there was no local inflammation; in which during convalescence the patients fell sick again with a repetition of the symptoms of the original disease, and in due time there came out the petechial eruption peculiar to that affection.

Then as to a relapse of measles: measles is repeated, and so is scarlet fever sometimes. Dr. Linsly, of this city, will tell you of a family in which a boy had measles contracted at school. It communicated to the other children of the family. After they had all gone through it, the first turn came, and he took it again. This is not properly a relapse, as the word is used in its relation to relapsing fever; still it is a repetition. In that disease relapse is the rule, while in typhus and typhoid fevers it is the exception, and perhaps a rare exception. The New England physicians, who have been long familiar with the typhoid affection of Louis, know that during the convalescence of a patient there frequently occurs a febrile movement which cannot be distinguished from that which the patient has just gone through. It may be gastric fever, or something different from the typhoid in its nature,—for it is not probable that the abdominal lesions are repeated,—still it so resembles the antecedent fever that it would be hard to persuade many of them that it is not a true relapse. However this may be, the distinction that is made by Dr. Henderson is valid, even if there are occasional relapses in the other forms of fever.

The disease has found its victims chiefly among the destitute. It has been called the famine fever. Dr. Bigbie concurs with Dr. Murchison in the opinion that relapsing fever is "the result of destitution, while typhus is produced by destitution and over-crowding combined," and thinks that it "will stand the test of further observation and renewed careful investigation." Dr. Murchison found, on examining the records of the London Fever Hospital, that from 1847 to the time of search, 430, or 97.5 per cent. of all the relapsing fever patients were paupers, whose expenses were paid by parishes. "A large proportion of them, for some time previous to their attack, had been literally starving."

Relapsing fever in Europe is regarded as contagious, or, to respect an old and almost obsolete distinction, infectious. In other words, it is believed that persons in health may, at the bedside of the sick, inhale or otherwise receive into their system poisonous emanations, which will soon produce in them the same relapsing fever. More than this, it is believed by a limited number of physicians that the poison is held and diffused by fomites, and that persons who wash the under garments and bedding of the sick are liable to the disease. Dr. Welsh, of Edinburgh, 1819, quoted by Bigbie, says: "When acting as clerk to Dr. Hamilton in the Royal Infirmary, in the course of four months my three colleagues, two of the young men in the apothecary shop, two house-maids, and thirteen or fourteen nurses, caught the disease, and the matron and one of the dressers died of it. Since I left the Infirmary three more of the gentlemen acting as clerks, one of the young men in the shop, and many more of the nurses, have caught the infection. In this Hospital (Queensbury House) Messrs. Stephenson & Christison, the matron, two apothecaries in succession, the shop-boy, washerwoman, and thirty-eight nurses, have been infected; four of the nurses died. With the exception of two or three nurses, who have been but a short time in the hospital, I am now the only person who has not caught the disease, either here or at the Infirmary, within the last eight or ten months."

Dr. Wardell says of the epidemic of 1843-4: "Most of the medical officers connected with the Edinburgh Royal Infirmary and the additional fever hospitals were seized with it; eight of the resident and clinical clerks in quick succession became affected. . . . . The majority of the nurses and domestics took the disease, and of the former at one time no less than nineteen were laboring under it. Some of the dispensary physicians and other practitioners took the disease, as also several of the clergy and visitors of the sick, whose duties brought them to the bedside."

Dr. Cormack presents a similar picture, and says: "Hardly any of the nurses or laundry women, or

others coming in contact with the patients *or their clothes*, have escaped."

Dr. Bigbie confirms the statements made in these quotations by reference to similar facts in the hospital with which he was connected, and adds: "It appears sufficiently remarkable that, as specially noticed by Dr. Cormack, in 1843–4, laundry women engaged in washing the clothes of the sick, though not brought into direct communication with the patients themselves, suffered frequently from the disease;" or, in other words, he was led to the conclusion that, "*by means of fomites or clothes*, the disease may be readily propagated." Cormack and Bigbie seem thus far to be the only authorities on this question of fomites.

On the authority of Dr. Welsh, it is stated that relapsing fever may be repeated in the same individual. "Being once afflicted with the disease seems to afford little, if any, protection against a second or even a third attack, and that too in the space of a few months. I have seen many instances of a second attack within the last twelve months." This statement should not be admitted without further inquiry; analogy discredits it. Other infectious diseases occur, as a rule, but once. If this affection were an exception to that rule, it is probable that the fact would have been generally noticed and announced. It has occurred to me that Dr. Welsh may have met with some cases of repeated relapse and mistaken them for new attacks; although even second and third relapses do not seem to have been frequently noticed.

Dr. Henderson called attention to the fact that in some of the cases urea is not fully eliminated from the blood. He had a patient who, after the critical sweat, had repeated convulsions, and died. He found urea in the blood and in the serum, which partly filled the lateral ventricles. In another case, confusion of mind, somnolence, and languor followed the sweat; and the blood taken from the arm contained urea in small quantity. In both these there was a moderate diminution in the quantity of urine. The latter case was treated by diuretics and recovered. Mr. Taylor also found urea in the blood of a patient who had cerebral symptoms with diminution of the urinary secretion.

Jaundice, when it occurred in relapsing fever, by some of the British reporters, was regarded as a complication more or less grave; but Prof. Henderson, who participated in this conviction at one time, says: "I am in a condition to assert now that there is no proof that the jaundice is of any consequence—no proof that the jaundice has caused those symptoms of cerebral disorder which have been ascribed to it, or has produced a fatal event in a single instance."

Douglas found this symptom 29 times in 220 cases—equal to about 1 in 8. It occurred in the first attack 19 times, and in the second 10 times. It occurred in none before the fourth day, and in five at the time of the first crisis. Paterson observed it only four times in 141 cases; Jenner in one-fourth of his cases; David Smith in the proportion of 1 to 2.6, nearly. A general average appears to recognize jaundice in one-fourth to one-fifth of all the cases.

The occasional vomiting of black matter Dr. Cormack regarded as a very unfavorable symptom, yet Dr. Anott reports that it was not a very unfrequent occurrence in the Dundee Hospital, where the mortality was only about one per cent., or 7 deaths in 672 cases.

Abortion, Dr. Allison found, took place in every pregnant woman attacked by the fever. Later observers have noticed some exceptions to Allison's rule.

A bronzing, leadening, or purpling of the countenance before and after seizure, referred to by Dr. Cormack, does not seem to have fixed the attention of other observers, and as it is described as a "striking peculiarity noticed by all visitors," it is strange, if it is of any importance, that it should have escaped observation. But Dr. Cormack had the strange conviction that this form of fever was closely allied to the yellow fever of tropical climates. This idea, utterly untenable, may have colored his notion of the importance of this symptom, and also of that of the dark or brown vomiting occasionally met with.

Regarding an eruption, there is some diversity of opinion. Spots on the body, generally differing more or less from those of the typhus and typhoid, have been described as occurring in particular cases. Petechiæ or purpuric spots, ecchymotic, have been occasionally seen by most observers. Sudamina were found in some cases. Douglas found them twelve times in two hundred cases. A large number of cases in the Scotch epidemics, 1843, and in London, 1847, exhibited "an eruption of small spots, round, purple, unaltered by pressure, and extremely like flea-bites;" and the learned, from Allison to Jenner, have been puzzled and confounded in their attempts to determine whether this is the work of the insect or a feature of the disease.

Relapsing fever appears to have been epidemic in Silesia (Prussian and Austrian) in 1847. An eruption of some sort appears to have been frequently seen. One author compares it to flea-bites. Another makes it up of "elevated little round red and yellow spots, which presently became darker colored, became confluent, dark bluish-red, and somewhat ecchymotic, and lasted ten or twelve days unaltered." Again, the flanks, and afterwards the body, presented spots with centres darker than the borders, rosy, or pale-red; disappearing on pressure, of short duration, disappearing after death, or followed by desquamation. Such diversity of eruption cannot be an *essential* feature of one disease. All told, it is well to say with Aitkin, that relapsing fever has "no constant eruption."

The so-called *crisis* does not appear to have been a constant occurrence. In 743 cases treated by Welsh, the improvement was gradual, without any notable discharge, in as many as 95. In 38 of Douglas' 121 cases, the crisis did not occur. Other writers say it almost always occurs. As to the time of its occurrence, it does not appear to have been observed earlier than the fourth day or later than the tenth. Paterson and Jenner place it between the fifth and sixth; Jackson on the eighth. Douglas finds that it falls on the sixth day in females, and on the seventh in males. There is some reason for supposing that it occurs earlier in young persons than in those of mature age.

Relapse, it seems, is not constant. It sounds a little strangely to say that in relapsing fever there is no relapse. But it seems probable that in the European fever a febrile movement was noticed in some, while the epidemic was prevailing, which could not be distinguished from the first paroxysm of relapsing disease, having the same duration, the same symptoms, the same crisis, and thus ended; so that, at the time the relapse was expected, convalescence was not interrupted. David Smith reports that he had 288 such cases in 1,000, while Douglas found only 2 in 220, and he was doubtful even of these two. Almost all the writers say relapse was "almost invariable," substantially admitting that there is a small number of cases in which it does not occur.

The epigastric tenderness was generally present in the European cases, often associated with increased size of the liver, and at the same time of the spleen. There is great uniformity in regard to the latter, all agreeing that the spleen was enlarged in the progress of the disease. It was recognized during the sickness, and demonstrated after death.

The high temperature is a marked feature—not perhaps the absolute temperature, but the rate at which it ascends in the early period of the patient's sickness.

Then the copious perspiration: sometimes the perspiration is not so very profuse, but the concurrence of the defervescence and sweating is the rule at the end of the first paroxysm, and there is a repetition of it at the end of the second, and with it a very rapid subsidence of the symptoms. I shall give you some instances of this concurrence in our own cases directly.

The mortality of "the epidemic fever" was remarkably small. The disease prevailed in 1843–4 in most of the large towns of Scotland. In the Dundee Hospital only one per cent. of those attacked died; in Edinburgh, one in thirty to one in sixty; in Aberdeen, one in thirty-four; in Glasgow, three and a half per cent.; but Dr. David Smith, in the last-named city, treated 1,000 cases, "occurring in the lowest, filthiest, and most densely populated part of the town," with a mortality of 43, which is 4·3 per cent. Dr. Murchison, in his recent book on Fevers, collecting such statistics as were within his reach, reports that in 14,119 cases there were 672 deaths, or 4¾ per cent. As the proportion of deaths has not been the same in different places, so it has varied in different epidemics. It is variously rated at 1 to 8.63 per cent. But the deaths everywhere have been charged more to complications, or concurrent, or pre-existing diseases of other sorts, than to the fever. Still the fever itself causes some deaths. Some die as if by syncope in the period of defervescence; and some die comatose, as if they were poisoned by urea in the blood.

The disease appears to be essentially epidemic, prevailing more or less extensively for a few months to three years, then wholly disappearing for years; yet Murchison believes that between the epidemic of 1843 and that of 1847–8, a few cases of relapsing fever continued to appear both in Ireland and Britain. Its beginnings in each epidemic have not been discovered. It is not certainly known whether it can originate *de novo* in the persons of the destitute, or in the influences that surround them. Typhoid fever, we believe, is produced by a poison from without, as well as a poison from within the body. It may be so with the relapsing fever.

Regarding the *Lesion*—according to Dr. Cormack, the blood drawn during life coagulated imperfectly, forming "a homogeneous spongy mass, in place of a firm fibrinous clot, with supernatant serosity." In twelve cases blood in small quantity for examination was taken from the thumb. Some of the patients were in the pyrexial and some in the apyrexial stage. "In all of them there was an unusual number of pus globules (white corpuscles), and in some, in addition to this, all the globules (blood corpuscles) were found serrated and notched (crenated)."

This observer also found congestions of the mucous membrane of the stomach, and sometimes of the small intestines; he notices also occasional ecchymosis in the stomach.

All the authors found enlargement of the spleen a common occurrence, recognizable during life, as well as after death. Jenner thinks it occurs more frequently than in any other disease. Hypertrophy of the liver is not often mentioned.

The complications that occur in relapsing fever appear to be diarrhœa, dysentery, bronchitis, laryngitis, epistaxis, pneumonia, and pleurisy. Diarrhœa and bronchitis were not uncommon; the rest were rarely met with.

The *sequelæ* seem to be limited to two. The pains resembling those of rheumatism, so common during the disease, are often protracted far into the convalescence; and ophthalmia has in some instances occurred during this stage. This inflammation generally attacks one eye only, and occurs two, three, four weeks or more after the relapse.

This ophthalmia is described by Dr. McKenzie as at first a congestion, "followed by inflammation of the inner parts of the eye, and especially of the retina, producing great imperfection of sight. This is succeeded by evident inflammation of the iris and sclerotica, the disease extends to the capsule of the lens, and sometimes to the lining membrane of the cornea; there can be little doubt that the choroid is also inflamed, while the conjunctiva remains in general but little affected. . . . . The change of color in the iris, the contracted state of the pupil, and the tags of adhesion between the edge of the pupil and the lens, show the part which the iris takes in the disease. The inner membrane of the cornea and the anterior crystalline capsule, especially the latter, are extremely muddy, showing their participation in the inflammation. The whole wall of the aqueous cell seems in some cases as if coated with a thin layer of lymph of yellowish-green color . . . If not promptly combated by appropriate remedies, the cornea and sclerotica become preternaturally flexible under pressure of the finger, showing that the disease has extended to the vitreous body." Dimness of vision occurs early, later when the iris and sclerotica have participated in the inflammation; there are severe pains in and about the eye, particularly at night."

The convalescence, as a rule, is slow, the patient looking pale and feeling feeble for some weeks—I mean convalescence after the fever, not the ophthalmia.

Now, then, having given a sketch of the disease as seen abroad, and referred to the evidences that are cited of its individuality, particularly by Henderson and Jenner, and after them pointed out the difference between this and any other form of fever yet described, we will inquire into facts and cases as they have presented themselves to us, here, in New York. In the first place, I will remark that the earliest case that was recognized was received at Bellevue Hospital on 6th of November last; but it appears that this was not the first case that occurred in the city.

Dr. Harris, the Sanitary Superintendent, is investigating the question whether it originated *de novo* among us, or was imported. He believes he will find the first subject of it in Baxter Street, where certain persons who deal in old clothes reside, when they are here—persons who are continually vibrating between this city and London, carrying on their trade. The disease has been prevalent in London for some months, and it may be, that just as emigrants brought it to Philadelphia, in 1844, where it hardly spread at all, it may have been brought here. However it came, this is the first time the disease has become epidemic in this country. On Thursday evening last we numbered ninety-two cases, and it was then increasing.

Regarding its recent origin and prevalence in London, Dr. Murchison (*Lancet*, Oct. 9, 1869) states, 68 cases were received by the London Fever Hospital from the 1st of May to the 1st of October, inclusive, viz.: 4 in May; 3 in June; 7 in July; 15 in Aug.; 11 in the first half of September, and 30 in the 15 days ending with the 1st day of Oct. Referring to this increase in the daily admissions, he says the disease threatens to become epidemic. He learns that relapsing fever and typhus appeared in East Prussia about the 1st of Jan. 1868; and that relapsing fever prevailed extensively in Berlin during 1868, and the winter of 1868–9. "It is clear," he says, "that relapsing fever was prevailing extensively in Prussia before it appeared in London;"

and although he is not in possession of direct proof that the disease was imported, among other significant facts he says that seven Polish Jews were admitted with relapsing fever into the German Hospital (near London) between Sept. 1, 1868, and February of the present year.

Now let us study our new disease in the light of cases. You will learn its nature by listening with patience and attention to the reading of three or four of them, as they are drawn up by Dr. Sloat, my House Physician. I know cases are always tedious, but facts are the foundation of knowledge. Mark the correspondence between these cases and those that have occurred in Europe:—

CASE I.—Mary Faguin, æt. 30; Ireland; domestic. Admitted to Bellevue Hospital Dec. 27, 1869. Patient is a prisoner from the workhouse, doing service in the hospital. On the morning of Dec. 25th she began to have chilly sensations, headache, and muscular pains in back and lower extremities. A half hour afterwards she became hot, commenced to vomit bilious matters, and the headache became so severe that she had to go to bed. On Dec. 26th was seen by the physician in office. Her pulse was 130; temp. 103; tongue coated, moist; skin moist. She had severe headache, nausea, and vomiting. Was ordered an emetic; afterwards, spts. mindereri.

Dec. 27th. Admitted as a hospital patient. Vomiting has ceased; skin dry. Evening, pulse 126; temp. 103.

Dec. 28th. Vomiting again; skin moist; pulse 120; temp. 103. Complains of headache and muscular pains. Ordered ice, to be swallowed, and a blister to epigastrium. Evening, bowels have moved; pulse and temp. same as morning.

Dec. 29th. Morning, pulse 120; temp. 103. Evening, pulse 130; temp. 103; skin moist; tongue coated and moist; no vomiting.

Dec. 30th. A marked change has occurred; pulse is 80; temp. 97; skin covered with a profuse sweat; face pale; is very weak. Complains of soreness all over the body; bowels open; has some appetite. This is the first remission since fever began.

Dec. 31st. Pulse and temp. normal. Has great pain in back.

Jan. 4th. Up to this morning patient has been very well. Pulse and temp. have been normal, and she has been walking about. Has been taking quinine, 2 grs. three times a day, since 31st ult. To-day she began to have some chilly sensations again, and a return of the feeling of soreness. Evening; pulse 136; temp. 103½; tongue dry and brown.

Jan. 5th. Pulse 130; temp. 103; skin is moist. Complains of severe headache. Evening, no change.

Jan. 6th. Is slightly jaundiced; face decidedly yellow; pulse 130, and temp. 103 again.

Jan. 7th. Pulse 125; temp. 102½ at 10 A.M. 7 P.M. Free from fever; skin covered with profuse perspiration; tongue is coated; is much prostrated; skin and conjunctiva still keep their yellow hue.

Jan. 13th. Since 7th she has been entirely free from fever. Appetite is much better, but she is still very weak. Rheumatic pains did not leave her till yesterday. Skin has cleared up; bowels are regular.

You will notice that on the evening of the fifth day the fever existed in full force—the pulse and temperature at their maximum, 130 and 103°. On the morning of the sixth day the pulse had fallen to 80, and the temperature to 97°, and there was a profuse perspiration. Then again, 11½ days from the commencement of the first attack (not fourteen, though I shall cite cases in which the period from attack to relapse was just fourteen days), we find the pulse 136, and the temperature at 103½°. For three full days the fever rages, then ceases almost suddenly with perspiration, not to recur again. This is relapsing fever, though the recurrence was of shorter duration than in any of the other sixteen cases of which I intend to give you a sketch.

A CLINICAL LECTURE ON RELAPSING FEVER.

DELIVERED IN BELLEVUE HOSPITAL JAN. 11, 1870,

BY ALFRED L. LOOMIS, M.D.,

PROF. OF INSTITUTES AND PRACTICE OF MEDICINE IN THE MEDICAL DEPARTMENT OF THE NEW YORK UNIVERSITY.

GENTLEMEN—To-day I will call your attention to a form of fever which probably has never before occurred in this hospital, and which made its appearance nearly two months ago; at least I find no cases recorded in the hospital books, and I have never before met with it. In every respect it answers to the description of Relapsing Fever given by English writers.

Before showing you a patient suffering from this disease, or giving you the histories of those who have been ill with it, I will give a brief synopsis of its written history. So far as personal observation is concerned, to me it is a new disease, and its true nature was not recognized until a number of cases had occurred.

More than a century ago in Dublin, Relapsing Fever was recognized and described by Dr. Rutty, since which time it has prevailed as an epidemic in all the northern countries of Europe, and in this country a few cases have been recorded.

Etiology.—As regards its etiology. Among observers there has been great diversity of opinion; but, with the accumulated evidence of the present day, its contagious nature scarcely admits of doubt. Dr. Murchison is of the opinion that relapsing fever is the result of destitution; while typhus fever is produced by overcrowding and destitution combined. There can be little doubt but that it is a distinct type of fever; and although in some of its phenomena it resembles typhus, and in others malarial fever, yet it is neither typhus nor malarial fever.

Symptoms.—Its invasion is almost always sudden, and is marked by chills or rigors, frontal headache, pain in back and limbs, lassitude, and a giddiness which compels the patient to take his bed. The chill lasts from one-fourth of an hour to several hours, and is followed by a hot skin, increased headache, and severe arthritic pains; thirst intense; tongue white; appetite lost, nausea and vomiting frequent, accompanied by pain in epigastrium; the matter vomited consists of ingesta, frequently tinged with bile; sometimes it resembles black vomit. The mind is usually clear; in some instances there is violent delirium. The temperature rises to 104° or 108°; the pulse early runs over 100 to 120, 140, 160, not usually higher on the second than on the first day. The symptoms at night are aggravated. Occasionally the heat of skin is relieved by irregular sweatings, but the other symptoms suffer no abatement. As the disease progresses the patient becomes more prostrate; pulse more rapid and tense; tongue more thickly coated, and sometimes brown and dry. Temperature may rise to 109°. There is no characteristic eruption, although a rose rash is often present for a few hours, or a day or two. The skin is frequently jaundiced from slight to deep yellow; the liver sometimes, the spleen more frequently is enlarged.

At the end of a week, sometimes as early as the third or fifth day, a marked remission of symptoms occurs; a

copious sweat breaks out, and almost immediately afterwards the whole phenomena of fever suddenly vanish, leaving the patient unexpectedly free from the painful symptoms with which a few hours before he had been harassed. The pulse comes down in a few hours from 140 to 70 or less; the temperature from 107° to 98°. Sometimes, instead of a profuse sweat marking the remission, there is an alarming epistaxis—diarrhœa, menorrhagia, or hemorrhage from the bowels.

The patient now feels perfectly well except that he is weak; his appetite returns, his pulse ranges from 50 to 70 per minute, and he gradually gains strength. This apparent convalescence is, however, of not long duration; for after a week, generally on the twelfth or twentieth day of the disease, without warning, a sudden relapse occurs, accompanied by the same phenomena as attended the primary fever; the pulse may rise in a few hours from 70 to 120—140. The symptoms of this stage of the disease are sometimes milder, sometimes more severe than at first. The *relapse* usually lasts three days, may last from one to five. In some instances there is no relapse, or merely one of a few hours' duration. Occasionally a second, sometimes a third or fourth occurs.

Prognosis.—One in twenty-five or fifty die. Death may occur from sudden syncope; from suppression of urine, convulsions and coma, and from complications. Pregnant women invariably abort; abortion sometimes, not always, cause of death; child always still-born (according to Murchison).

Diagnosis.—It differs from other forms of fever: first, in its sudden invasion, and in the sudden rise in pulse and temperature on the first day; second, by the short duration of the primary fever, and its termination by an evident crisis; third, by the almost uniform occurrence of a relapse—occasionally a second and third; fourth, by the frequent occurrence of jaundice; fifth, by the absence of any characteristic eruptions.

Complications.—Sudden syncope may occur during the paroxysms, in the intermission, or in the relapse; not unfrequently it is the result of hemorrhage, and sometimes proves fatal. The most frequent form of hemorrhage is epistaxis; it may, however, take place from the womb, the stomach, the intestines, ears, &c. Laryngitis, bronchitis, pneumonia, and pleurisy occasionally occur as complications. Diarrhœa and dysentery are common, and not an unfrequent cause of death. Muscular and arthritic pains are often more severe during convalescence than during paroxysm. Œdema of lower extremities and glandular swellings are of frequent occurrence. Post-febrile ophthalmia frequently comes on from three weeks to three months after convalescence; at first attended by amaurotic symptoms, afterward by inflammatory. Inflammation apparently commences in retina, then spreads to iris, sclerotic, capsule of lens, choroid, and lining membrane of cornea; conjunctiva usually little affected; recovery slow; sight sometimes lost.

Pathology.—No special anatomical lesion has been found so invariably present as to indicate the anatomical character of the disease.

Treatment.—Dr. Rutty, in the first description of this disease, stated that all who were abandoned to God's good providence and the use of whey, recovered. Although nearly a century has elapsed since this statement was made, no settled plan of treatment has been adopted by the profession. Certain am I that the cases that have come under my observation have apparently been in no way affected by the different remedial agents employed.

I will now present to you the lad J. Cavanaugh, who two days ago passed his second crisis. As you notice, he presents an extremely anæmic appearance, and complains of excessive weakness. His pulse to-day is 60 per minute, and his temperature 98°. His tongue is clean and his appetite good. Two days ago his pulse was 140 and his temperature 105°, his tongue coated, and his appetite lost.

Dr. Stephen Pierson, my House Physician, will now read his history in connection with the histories of other cases that have occurred during my service.*

Case I.—M. R——, æt. 18; single; Irish domestic. Admitted Nov. 15th, 1869, to Ward 21. Been living under very bad hygienic influences.

Nov. 10th. Pains all over body; intense headache; chilliness, lasting five or six hours; sharp febrile action succeeding.

Nov. 11th. Pains and fever continue.

Nov. 12th. Diarrhœa added.

Nov. 15th. On admission, face flushed, tongue coated, diarrhœa; no physical signs of disease in any viscus. Temperature not recorded.

Nov. 16th. Eyes suffused; epistaxis; diarrhœa; tenderness in right iliac fossa; no eruption; subsultus tendinum; pulse 128; temp. 105°; urine normal.

Nov. 17th. Two large watery stools; delirious; pulse 104, temp. 103°.

Nov. 18th. Epistaxis in the morning; in the evening sweating profusely; pulse 76; skin cool; "feels well."

Nov. 24th. Since last note, appetite excellent; pulse 68—88; temp. once in the evening 102°; usually 98°.

Nov. 25th. Pulse 132; temp. 107°; bowels open.

Nov. 26th. Symptoms same.

Nov. 27th. Epistaxis; menses unusually abundant; pulse 128; temp. 107°; severe pain in back, legs, and arms.

Nov. 29th. Sweated profusely and fever subsided; complains of pains and great prostration.

Dec. 8th. Convalescence has advanced rapidly, and patient asks for her discharge.

Treatment during first attack, acid carbolic cryst. gr. ¾ every 4 hours; during relapse, quin. sulph. grs. vi. daily.

This patient, her brother, and her mother were admitted upon the same day; the mother suffering from erysipelas of the leg. The brother had been ill for two or three weeks with a fever, and upon admission was exceedingly weak. He was not asked if there had been a complete intermission, followed by a relapse, in his own case. During his stay in the hospital, Frank C——, also a patient, was much about his bed. On Nov. 27th Frank was seized with chills, quickly followed by a sharp fever lasting four days; was delirious. On the morning of the fifth day he began to sweat profusely; his pulse dropped suddenly to 68, temperature to 94°. He convalesced slowly; complained of rheumatic pains; he is still in the ward, but has had no relapse. Treatment, mineral acids; no quinine.

John A——, a patient in the same ward, already under the influence of quinine for a non-febrile disorder, was on Nov. 23d seized with a chill, intense headache, and sharp fever; this continued four days, and subsided after a profuse sweat.

Dec. 10th. Return of same symptoms, lasting three days; disappearing in the same way, and followed by slow convalescence and pains in limbs. Treatment, mineral acids, and no quinine. Each of the patients last named had been in the wards three weeks before the admission of the Rogers family.

Case II.—Kate ——, night-nurse in Bellevue Hospital, and doing duty in the ward where Case I. lay.

* These histories were furnished me by Dr. Pierson about one week after the delivery of this lecture.

Nov. 22*d.* Sharp chill, succeeded by slight fever; chilliness for twenty-four hours; pains and aches; severe headache.

Nov. 24*th.* Nausea, vomiting, high fever, mild sweats; irregular.

Nov. 25*th.* Fever continues; hemorrhage from vulva; not the time for the menstrual flow.

Nov. 26*th.* Profuse perspiration; chilliness and fever alternate; a little delirious.

Nov. 29*th.* Fever suddenly subsided, leaving patient very weak; hemorrhage from vulva ceased to-day; very weak.

Dec. 6*th.* Had returned to duty. To-day chills and all the former symptoms, including flow of blood, reappeared.

Dec. 10*th.* Fever again suddenly disappeared; profuse perspiration. Treatment during first attack, large doses of quinine; during relapse, hydrochloric acid and small doses of quinine, vi. grs. daily.

CASE III.—Jas. C——, æt. 15; single; New York. No occupation; admitted Dec. 26, 1869, to Ward 14. He has been insufficiently nourished for past four or five months. No home; sleeping in alley-ways and cellars.

Dec. 23*d.* Chilliness; fever pains; constipation.

Dec. 26*th.* On admission, temp. 105°, pulse 132; evening temp. 105°, pulse 132.

Dec. 27*th.* Morning and evening temp. 104°, pulse 132.

Dec. 28*th.* Morning and evening temp. 96°; is not sweating; severe pain in legs; very weak.

Jan. 4*th.* Until to-day convalescence seemed well established. To-day chilliness, fever, little sweats, and then a high persistent fever; temp. 108⅕°, pulse 136.

Jan. 7*th.* Symptoms continue; temp. 107°; pulse from 130—150.

Jan. 8*th.* Been sweating profusely; temp. 98°.

Jan. 9*th.* Very weak; pains all over, and stiffness of joints. No eruption on abdomen at any time. Treatment, first attack, tr. aconit. rad. Treatment second attack, a placebo.

Jan. 24*th.* Discharged well.

CASE IV.—Rosanna P——, æt. 35; married; Ireland. Admitted to Ward 20, Dec. 31st.

Dec. 28*th.* Chills, fever, abdominal tenderness, diarrhœa, intense headache; no epistaxis.

Jan. 2*d.* Fever continued until to-day; no eruption last night; watery passages from bowels, very frequent and large; temp. 97°, pulse 76.

Jan. 12*th.* Return of chills, aches and pains, with fever.

Jan. 13*th.* Headache intense; nausea, vomiting; temp. 104⅕°, pulse 124.

Jan. 14*th.* Temp. 104°, pulse 120.

Jan. 15*th.* Temp. 105°; pulse 150, weak and fluttering; ordered stimulants *pro re nata;* 10 P.M., sweating.

Jan. 16*th.* Sweated profusely; temp. 96°, pulse 64; is very much prostrated; pains in joints very annoying.

Jan. 24*th.* No return of fever. Treatment, mineral acids, quinine grs. iv. three times daily, continued faithfully during the whole apyrexial period.

This patient was a hard character, and was an inmate of the workhouse when admitted to the ward.

CASE V.—Rose M——, æt. 35; married; Ireland; domestic. Admitted to Ward 21, Dec. 23d, four days ago; chills, fever, headache, &c. Attack was subsiding when she entered the hospital.

Jan. 1*st.* Relapse began; fever continued unabated; temp. ranging from 104° to 106° until Jan. 6th, when, after a profuse perspiration, temp. was 97°; pulse 72; did not complain of articular symptoms. Treatment, hydrochloric acid and quinine in small doses from the date of admission.

Jan. 18*th.* Discharged.

CASE VI.—Mary W——, æt. 35; England; widow; domestic. Admitted Nov. 20th to Ward 20. Fever, headache, pains, and constipation; had lasted five days before admission.

Nov. 22*d.* Temp., which has been steadily at 104⅕° or 105⅕°, is falling gradually; abdominal tenderness.

Nov. 23*d.* Perspiring freely; acid odor; pulse 72, small; temp. not taken. Menses for the first time in six months.

Nov. 30*th.* No return of fever, though temp. has been up to 100° and 101° in the evening.

Nov. 31*st.* Relapse beginning; chilly; pulse 100, temp. 104⅕°.

Dec. 2*d.* Temp. has been from 104° to 105°.

Dec. 3*d.* Temp. 97⅕°, pulse 72; perspiring freely. Treatment, acid carbolic cryst. grs. ½ every four hours. Had no return of fever.

CASE VII.—Mary S——, æt. 32; single; Germany; domestic; admitted to Ward 21, Dec. 1st. Seven days ago malaise chills, fever; fever continuing until admission when temp. was 104°, pulse 108.

Dec. 2*d.* Temp. 105⅕. Quin. grs. iv. three times daily.

Dec. 3*d.* Temp. 102⅕°. Tepid sponging; is menstruating.

Dec. 4*th.* Temp. 98°. Sweating freely.

Dec. 12*th.* Chilly; skin hot.

Dec. 16*th.* Temp. 104°; since the 12th it has remained between 103⅕° and 104⅕°.

Dec. 17*th.* Sweats freely; is again losing blood from the vulva. Temp. 97°.

Convalesced steadily, but slowly; no mention of pains. Treatment during the relapse, mineral acids and no quinine.

CASE VIII. Mary W——, æt. 35, single, Ireland, domestic. Admitted Dec. 20th.

Dec. 13*th.* Attack began.

Dec. 21*st.* Sweating profusely; sudamina; temp. 97°.

Dec. 29*th.* Relapse began. Temp. 106°.

Jan. 5*th.* Temp. 99°, pulse 78; she is very weak. Convalesced steadily. Treatment, placebo.

These cases all occurred upon the 1st Medical Division. In every case the patient was fed liberally upon milk and beef-tea. In one or two cases stimulants were resorted to. From questions addressed to the patients themselves the existence of similar fevers in the neighborhood from which they came could not be ascertained with any degree of certainty.

Dr. Moore, House Physician, 3d Medical Division, reports twelve cases in his wards since November 1st. Two of the twelve occurred in patients and employées already in the hospital.

Dr. Sproat, House Physician, 2d Medical Division, reports ten cases, one of which arose in the hospital.

Dr. R——, one of the resident staff, and serving upon the 2d Medical Division, passed through a well-marked course of the same fever. First attack, Dec. 23d, lasting six days. Relapse on the 14th day, lasting three days.

Dr. Graham, House Physician of the Lying-in Division, reports one case in his service, which arose in the hospital, and during which the patient miscarried at the seventh month. The child lived several hours after birth.

Dr. P——, a member of the House Staff, under whose charge was the last-mentioned patient, on January 3d

was seized with chills, followed by a high continued fever. He left the hospital for his home in the country. The fever continued five days, and left him very weak, and annoyed by persistent and severe pains in the joints and muscles. He had no relapse.

In all, thirty-five or thirty-six cases of this peculiar fever have been treated in this hospital since November 1st. One death has occurred. The only marked lesions found at the post-mortem examination was an enlargement of the spleen, which contained several hemorrhagic infarctions of small size.

In all these cases the initial symptom was a chill, followed by the usual phenomena of the disease.

In one case, during a relapse, the pulse is noted as having reached 150 beats; but in the greater number of cases to have varied between 120 and 130.

The temperature in these cases ranged from 102½° to 108½°, but in the majority it only reached 105° during the course of the disease. It seems to have fallen somewhat gradually in only one of the cases where the temperature is noted (Case VII.). Of the ten cases whose histories are particularly recorded, in eight the cessation of the fever was preceded by profuse sweating; in one no sweating occurred; and in the other, large watery passages from the bowels were the critical phenomena. The duration of the primary fever has a margin in the twelve cases of 4 to 10 days; that of the interval, of 7 to 14 days; that of the relapse, of 2 to 7 days.

In only two out of twelve cases was convalescence interrupted by a relapse. Epistaxis, diarrhœa, menorrhagia or severe muscular and arthritic pains, sudamina (in one case), and premature labor, are noted as complications.

The child born at seven months is stated to have lived several hours, a fact which contradicts a statement made by Dr. Murchison that it is invariably still-born.

The epistaxis and hemorrhage from the womb do not seem to have been markedly critical.

An interesting feature in the history of these cases is the duration of the interval between the arrival of the Rogers family and the occurrence of the disease in the two boys and the night-nurse. This interval in the latter case was seven days, in the former cases eight and twelve days. Supposing that they contracted the disease from these people, and on their arrival at the hospital, then the incubative period of the disease varied from seven to twelve days. While tolerably sure of the former fact, we are not so certain of the latter.

On investigating the history of the Rogers family, it was found that, previous to his illness, the boy had been living at No. 90 Madison street. The house was a three-story brick building, in bad repair. The boy lived on the third floor, in a small, not over-clean room. It seems that a woman named Ellen Armstrong or Gibbon (at present residing at No. 71 Cherry street) was sick at this house for some two weeks previous to the boy's illness; that, one Sunday afternoon, for some cause, he went to Bellevue Hospital; on coming home he lay on the bed with this woman; that, one week afterward, he was taken sick with the initial symptoms of the disease. Very soon after this the sister, who had been living as servant in Catherine street, in a clean though small house, and one at which they had and have had no sickness, came home to nurse her brother. Just one week later she was also seized with the disease. About this time the woman Ellen Armstrong, according to the account of the people, was sent to Charity Hospital, but really to the workhouse, from which place she was transferred to Charity Hospital for mucous patches, but no mention is made of fever. This woman's child was sent to 71 Cherry street, to the top floor of a small, dirty two-story and attic building. The inmates of the room to which the child went were a man, his wife and daughter. The child (as I recall the conversation) about one week after its arrival was taken sick with a fever, which lasted two weeks. One week later the man and his wife, and two weeks later the daughter, contracted a fever which, according to their story, was intermittent, but one which confined them to bed from two to three weeks.

They state that at present, at 69 Cherry street, in the house adjoining theirs, separated by a thin partition wall, there is a case of fever.

It will be noticed, that if the boy either took the disease from Ellen Armstrong, or contracted it at Bellevue Hospital on his visit there, the incubation was 7 days. The same holds true of the Rogers girl. But the baby of this woman Ellen Armstrong, if it had this fever, either did not take it upon first exposure, or else it had a longer incubative stage. Again, if the people in the room to which this child was sent had this form of fever, which seems probable, then the incubative period would in two cases be 7 days, and in one case 14 days, with the proviso mentioned.

In the January number of the London *Lancet*, I notice a communication from Dr. Murchison, calling the attention of the profession to the fact that relapsing fever had reappeared in England after an absence of fourteen years, and that there was reason to fear they were on the eve of another epidemic. Although as yet we have been unable to trace the disease to importation, yet, from the locality in which thus far the cases have originated, there is strong presumptive evidence that such is the case.

I am informed by Dr. E. Janeway, one of the Visiting Physicians of Charity Hospital, that since the 15th of January, 35 cases of relapsing fever have occurred in that institution. Of this number three have died. In one were found the following lesions: serous effusion in the ventricles of the brain, thickening of the ependyma, loss of the gray matter on the surface of one corpus striatum at its outer part, and a cyst in its interior; pneumonia involving both lungs, but to a moderate extent; spleen slightly enlarged and softened. The other organs presented nothing special. In the second case was found fibrous induration at the apices of both lungs; recent fibrinous exudation on the right pleura. The right lung was much congested at its base, and the left lung was œdematous at its lower part. The liver weighed 5 lbs. 3 oz., and was soft. The spleen weighed 1 lb. 13 oz., and was soft. The kidneys are stated to have been somewhat granular.

Both of these cases died during the relapse. No satisfactory history could be obtained from the first, as he appeared to be idiotic, and the lesions found in the brain evidently were of old date. In the third case, the liver and spleen were enlarged, and the epithelium of the kidneys was in a state of granular degeneration.

MANAGEMENT OF PLACENTA PRÆVIA.—Dr. H. L. W. Burritt, Bridgeport, Ct. (*Med. and Surg. Reporter*), publishes five cases of placenta prævia, and from his experience he is led to prefer immediate, forcible dilatation of the os and turning, to bring the fœtus by the feet as soon as possible, thinking even greater force safer than delay in a large proportion of these cases. As adjuvants in all cases of uterine hemorrhage, he prefers the acetate of lead and morphia in large doses—or, in relaxed cases, ergot—as an alternative.

Original Communications.

THE AVAILABILITY OF THE SPHYGMOGRAPH,

WITH DESCRIPTION OF A NEW INSTRUMENT.

By E. HOLDEN, M.D.,

NEWARK, N. J.

[Referred for publication by Essex County Medical Society.]

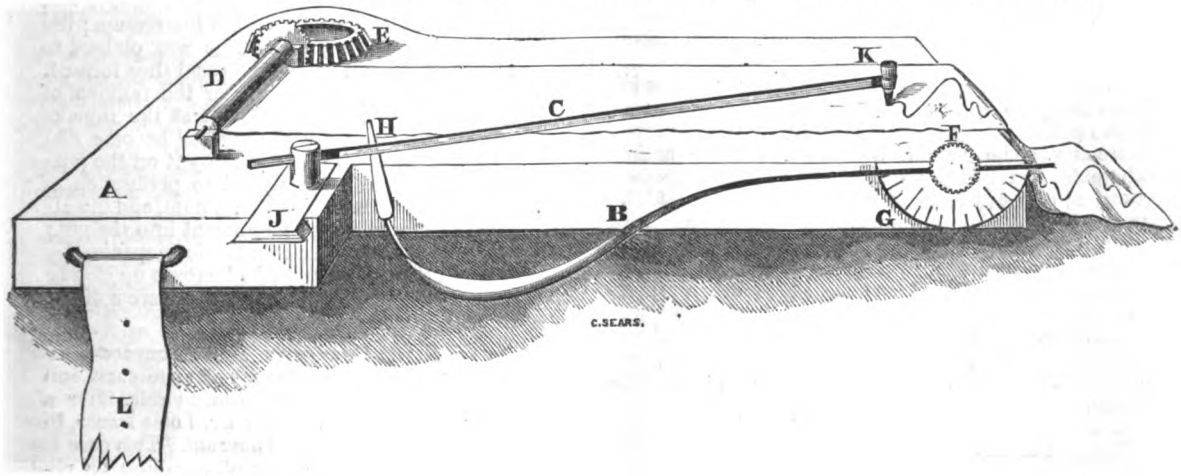
There can be no doubt that a certain indescribable sensation conveyed by the touch of a patient's pulse may give to one physician a skill of diagnosis that another could never acquire; and whoever can place this sensation, or its equivalent, adjuvant as it is of skill, within the reach of all, and can thus supply the tactus eruditus to the junior physician just entering on his journey of painful experiences, as well as to the less acute among the seniors of the medical fraternity, must confer a blessing. That a sphygmograph may be made to accomplish this, will, I believe, be yet demonstrated, and the sanguine hopes of Marey, its originator, more than realized.

Simplicity, with delicacy of sensibility and accurate record, are the great desiderata, and improvement in these will add to the prospect of usefulness of the instrument. The contributions of B. W. Foster, J. B. Sanderson, F. E. Anstie, and F. W. Grimshaw (and perhaps of others also), have done much to give rank to observations conducted by its aid as a branch of science; but the good that may accrue will be small indeed so long as medical men at large are debarred from its use by the two obstacles that now exist, viz.: the great expense of the instrument and its possible inaccuracy.

Reasonably it was hoped that in this automatic recorder we should have a certain means of distinguishing between perplexing symptoms in many cases, and especially in relation to the heart's action, that have not infrequently led to diverse opinions among eminent authorities, leaving the patient alternating between the hope inspired by the one who pronounces his disease functional and the other who says "organic."

Now, while the best of instruments has thus far failed to afford a certain means of diagnosis, there is yet the possibility, either by the multitude of observations and the multiplication of observers, or by increasing the accuracy and delicacy of the instrument, to attain the end, and not only aid in diagnosis, but furnish a means of prognosis most satisfactory and real.

As a contribution to the cause, I desire to present a new form of sphygmograph that differs from the one considered as the standard in its main features, viz.: its pulse spring, measurer of pressure, and tracer.



A. Body of the instrument.
B. Pulse spring.
C. Tracer.
D. Roller for paper.
E. Cog-wheel moved by internal watch-work.
F. Milled screw for regulating pressure.
G. Dial.
H. Impinging cone.
J. Sliding attachment of tracer.
K. Pen.
L. Strap for binding to the wrist or leg.

The first idea, however, that would, I think, present itself to any one, as it did to me, desirous of making an instrument to combine cheapness and accuracy, is that in electricity and the sensitive galvanometer lie the elements, and that adaptation is easy.

It is in fact hard to divest one's self of the belief that an instrument could be thus made, sensitive beyond expression, and perfectly accurate. The galvanometer moves to an electric current inconceivably minute—the contact of two metals, the daily variations of temperature, even the actinic rays of the fixed stars, may be made to record themselves before the observer. A compass with its needle plainly visible, a slip of copper that will rise and fall under the beatings of the pulse and impinge upon a minute bar of silver, and a conducting wire, are all that are essential; compactness is easy, and at once we have an instrument sensitive to a fault.

Multiplication of the coils about the needle, in accordance with a well-known philosophical principle, magnifies its power, and the needle can carry a tracer; and a simple weight or watch-work, the paper to receive the writing.

Unfortunately, however, the delicacy lies entirely in the instrument, and not in its power to record the fine variations in the pulse wave. No modification has seemed in my hands to obviate the one great difficulty—that the instant of generation of the current commences a tracing which is incapable of noting the fine shades of the cardiac and arterial impulse. Changes of temperature, the prevalence of electrical storms, and the many other disturbers of electrical currents, render inaccuracy liable, and an attempt to graduate the current induced by making one of the poles of several metals differing in galvanic power involved a necessary limit to the power of recording infinitesimal changes. The

agent seems, therefore, not after all the one to supplant the admirable recorder of Marey and his imitators.

To render intelligible the object of departure from or modifications of the standard and perhaps familiar instrument, it is necessary to refer to its mechanism and defects. It may be simply described as having first a slip of paper moved by watch-work in a vertical position, like a miniature panorama. Against this, like the stick of the exhibitor, moves the tracing pen, a slender rod of steel, pivoted at its extremity, and touching close to this pivot the distal end of the pulse spring.

The pressure, necessarily variable in different persons, is regulated by a vertical screw which was originally without index. As the pressure, however, was found to make an important difference in the tracing, an index was added by B. W. Foster, of London, and another proposed by Dr. Sanderson.

In this feature of the instrument lies its defect. As the pressure is increased, accuracy is diminished. In the improvement of Dr. Foster, the increase of pressure interferes mechanically with the free action of the pulse spring; in that of Dr. Sanderson (which simply proposes making the pressure screw a fixture and lifting the end of the instrument by inserting slips of brass) the objection lies in the fact of uncertainty when employed by different observers.

The defect is a vital one, since in the niceties of the tracings lies the value of the record.

In the instrument now presented, the paper to receive the tracing moves horizontally by weight or watch-work, the works of an ordinary watch being easily adapted.

The tracer moves like an ordinary pen, and the ink flows freely by its own gravity. This tracer is moved from right to left by a cone impinging near its attached extremity. The cone is a part of the pulse spring. The pulse spring is free, except at its distal end, where attached to the instrument by a milled screw head, by turning which the pressure is regulated and recorded upon a dial.

The body of the instrument is of wood, the tracer and pulse spring of steel, and the whole not expensive to manufacture.

The possible variation lies in the width only of the tracing—an amplification not objectionable, and controlled by the sliding attachment of the flexible tracer.

The drawing will explain itself with this description. The instrument is being made by Tiemann.

Progress of Medical Science.

Dr. Barnes on Uterine Hemorrhage.—When compression, cold, and ergot of rye fail to produce stoppage of post-partum uterine hemorrhage, owing to loss of nerve power, Dr. Barnes recommends the injection of the perchloride of iron before collapse sets in. Dr. Tyler Smith recommends a full dose of ergot of rye, immediately after the birth of the child, to prevent hemorrhage.

Useful Effects of Ipecacuanha in Hæmoptysis.—During the month of October cases of phthisis were, as usual, extremely prevalent in the Paris hospitals. In several cases a remarkable liability to hæmoptysis was observed under the influence of the then reigning "medical constitution." In a great many instances this symptom was most happily amended by the employment of strong doses of ipecacuanha—as much as four grammes, in a gum julep, given in two tablespoonfuls every hour.

Diphtheria and Statistics of Tracheotomy.—Twelve deaths out of twenty-nine cases of diphtheria are inscribed on the register of the Paris hospitals for the month of October—a proportion exceeding that of the former month.

Tracheotomy was performed in seventeen cases, and was successful in five only. Besides, it must be added, that even in these cases the success could not be surely stated, as the parents sometimes remove their children from the hospital before a cure has definitely taken place. In the unsuccessful cases of tracheotomy death occurred immediately after the operation, or it was brought on by broncho-pneumonia.

Pessary Removed from the Rectum.—Dr. Geo. C. Harlan, of Philadelphia (*Am. Jour. of Obstetrics*), presented to the Philadelphia Obstetrical Society a much eroded and bent ring pessary, which he had removed from the rectum of a patient, and gave the subjoined history of the case:—

The woman had had the instrument introduced into the vagina five years ago, for the relief of procidentia uteri, and had worn it with great comfort for two years, when she had a severe fall, since which time she has had considerable pelvic pain, accompanied by a bearing-down sensation. Latterly the pains had increased in severity, and had become complicated by difficulty and distress in defecation. When Dr. H. was called to her he found a portion of the instrument protruding from the anus, and on examination found that it was firmly embedded in the anterior wall of the rectum; the tissue having united firmly over it, he was obliged to cut the ring and draw it out of the canal thus formed. No recto-vaginal fistula was left after the removal of the instrument. Dr. H. believed that at the time of her fall, three years ago, the pessary had become displaced, and that the pressure exerted by it on the posterior vaginal wall had gradually led to perforation of the septum between the vagina and rectum, and the almost complete escape of the instrument into the gut; and he explained the absence of a fistulous opening by the supposition that the tissues had grown up closely around the ring, so that at no time was there a direct communication between the two passages.

A Case of Retro-Curvation and Anchylosis of Knee.—An interesting and rare case of retro-curvation pertaining to the knee-joint, with anchylosis, after a penetrating wound, is published by Dr. Louis Bauer, in the *St. Louis Med. and Surgical Journal*. This case is the first he has personally observed, nor does he remember that there are more than two cases of this nature on record, one by Wm. Adams, of London, the other by Dr. T. E. Grant, of Ottawa, Canada.

Treatment of Rickets.—Dr. Holmes Coote, of St. Bartholomew's Hospital, arranges the treatment of rickets under three heads—hygienic, therapeutic, and mechanical. For the first he advises pure country air, light out-door exercise, and light nutritious diet, with but a small proportion of meat. The second indication is fulfilled by small doses of antimony to recover febrile symptoms, and afterwards a cautious use of tonics. The mechanical treatment includes movable couches on which the patient can be wheeled pleasantly from place to place. Where there is great curvature of the long bones, Mr. Coote sometimes removes a wedge of bone by a subperiosteal operation.

Bromide of Potassium in Epilepsy.—Dr. McGregor, of Edinburgh, reports that out of one hundred and fifty cases of epilepsy he has not been able to cure one by bromide of potassium, though he has found it a very valuable agent in the mitigation of the disease.

DRUGS IN ORGANIC GROWTHS.—Dr. Alfred Meadows contributes a paper to the *Practitioner* on the uselessness of drugs in the treatment of organic growths. He believes that little good and much harm results from their administration in these affections. He supports his opinion by able argument and large experience.

A NEW REMEDY FOR ITCH.—Dr. Spencer, of Oxford, states that he has succeeded in curing itch as speedily and as certainly by iodide of potassium ointment as by sulphur. The ointment is well rubbed in night and morning, for a few days.

COPPER *versus* CHOLERA.—At a recent meeting of the London Clinical Society, it was stated by Dr. Clapton that his investigations on the effects of copper upon the system had elicited the remarkable fact that men engaged at the various copper-works in London always escaped cholera and choleraic diarrhœa during great epidemics. That such an immunity is really afforded by the action of this metal seems now to be a well-attested fact, since Dr. Clapton's statements have lately been confirmed by some statistics communicated by M. Burq to the French Academy of Sciences. M. Burq states that during the epidemic of 1865-66 in France, only 1 out of every 1,270 workers in copper was attacked, the total number of individuals thus engaged being 37,000. With workers in iron and steel, on the other hand, 1 out of every 209 was attacked; and of those engaged on other metals than copper or iron, 1 out of 178.—*Lancet.*

NEW SOURCE OF CITRIC ACID.—From the *Journal de Pharmacie* we learn that Professor O. Silvestri, of the University of Catania, has recently discovered a great quantity of citric acid in the fruit of Cyphomandra betacea, a plant belonging to the Solanaceæ which is found scattered in the gardens of Sicily. Its natural habitat is Mexico; and it is also abundantly distributed in Peru and other parts of South America, where it is called *tomate de la par.* It is a woody plant, about 12 ft. in height, and from 1 to 1 5 per cent. of its fruit consists of pure citric acid. This acid has already been found by Bertagnini in the potato, and is probably present in greater or less quantity in all solanaceous plants.—*Lancet.*

LIME WATER IN BRIGHT'S DISEASE.—Kuchenmeister recommends in the treatment of Bright's disease and of nephrites after scarlatina the use of large doses of lime-water, theoretically from its having the property of dissolving proteine. *Lyon Médicale* details the treatment, and says that caustic lime in solution, or any of the soluble salts of lime, will answer equally well. He has seen the urine increase from 30 grammes to 120 the first day, 180 the second, 300 the third, and up to 1,020 the seventh day under this influence; sometimes a slight hæmorrhage necessitates the disuse of this treatment; but the quantity of albumen in the urine sensibly diminishes.

TAPPING OVARIAN TUMORS.—Dr G. Southam, of the Manchester Royal Infirmary, publishes in the *Lancet* a number of cases of ovarian tumor in which he obtained a favorable result by tapping. He says of the operation: "One or two tappings, especially when the cyst has obtained a considerable size, are usually succeeded by a marked improvement in the patient's health, and by a reduction of the original tumor, so that only a moderate incision through the abdominal parietes will be necessary for its extraction; both of which conditions are favorable to the success of the major operation.

"Amongst the cases of ovariotomy that have come under my notice, several have been those of patients in comparatively good health, where the tumors were of recent formation, of moderate size, and free from adhesions, and the operation itself, therefore, of the simplest description; but the results have not been so satisfactory as in cases of longer standing, and of a more complicated character,—acute peritonitis being usually the cause of death in the former, shock and its consequences in the latter. The tendency of the peritoneum, therefore, to inflammatory action seems to diminish with the duration of the disease, probably on account of the continued friction of this membrane against the surface of the cyst diminishing its sensitiveness.

"Accordingly, in the earlier stages of the disease, whether the tumor consisted of single or of multilocular cysts, it has for some time been my custom to advise a postponement of ovariotomy; tapping the tumor once or twice when it has become inconveniently large. Since adopting this plan, I have removed seven diseased ovaries, and in only one case was the operation fatal. Five of the patients had been tapped once, one twice, and one three times, the fatal case being among the first five. The recovery of those tapped only once was the most rapid, although in three of them the tumors were multilocular cysts. The two tapped more than once made favorable progress; but their complete restoration was not accomplished for several weeks, owing probably to the fluid in the cysts having become purulent after the second operation in one, and after the third in the other. Suppuration of the cyst I have not unfrequently found to be the consequence of repeated tappings; and, therefore, it is a matter of doubt whether the operation should be undertaken more than once or twice, as its repetition may diminish the chance of successful ovariotomy. The experience of Mr. Spencer Wells is also favorable to a preliminary tapping, for he found that, whilst the average mortality in 135 cases, where the patients had never been tapped, was 27.40 per cent., where the patients had been tapped once the mortality was only 25.64 per cent." —*Proceedings of the Royal Medical and Chirurgical Society*, 1869.

ACTION OF VERATRIN.—A very careful investigation of the therapeutic properties of veratrin has recently been made by M. Pégaitaz, who has published his results in the *Deutsches Archiv für Klinik Medicin* for October. He describes its effects both when taken internally and when subcutaneously injected; and finds them almost precisely the same, being as follows:—In the earlier stage excitation; subsequently depression. Then follow in succession, salivation, nausea, sensation of choking, vomiting, and usually diarrhœa. The voluntary movements become unsteady, the want of power displaying itself first in the posterior, and subsequently in the anterior, limbs; accompanying this there appeared to be a certain degree of stiffness. There were coincidently exaltation of the reflex sensibility and diminution of the sensibility. The temperature, the number of the respiratory acts, and of the beats of the heart, were all transiently diminished. Convulsions and tetanus finally set in; but careful examination failed to discover any indications of inflammatory mischief. Experiments made with a view of testing its applicability as a remedy which might be used hypodermically seem to have been unsatisfactory, showing that whilst it acts in this way similarly to its operation when given by the mouth, yet the injection produces very great pain.—*Lancet.*

DOUBLE VAGINA.—L. French, M.D., of Davenport, Iowa (*Am. Jour. Med. Sciences*), while attending a

married lady, aged 23, in her first labor, found on examination a double vagina. The septum appeared to be a fold or duplication of the mucous membrane, with a considerable quantity of cellular tissue intervening. It became evident that the septum must be cut, or left to rupture, as the child could not be born with parts in this condition. At this juncture a severe pain ruptured the septum, and labor was completed in a few moments. In five weeks but a trace of it was left along the posterior attachment like a cicatrix. Patient's recovery was rapid, and labia are now of equal size—while at first the left labium was larger than the right.

MEDICATED PENCILS.—M. Bonilhon, pharmacien (*Bull. Gén. de Thérap.*), remarks that the pencils of nitrate of silver, of tannin, and of various other substances, which are in ordinary use, are always too hard and too brittle. To remedy these defects, M. B. reduces the medicament to impalpable powder, and mixes it with an equal weight of melted gutta-percha; the mass, while hot, is rolled into the shape and size desired. On account of their elasticity they cannot be broken, and in every particular case they can be scraped to any desired point. They should occasionally be scraped, otherwise it may happen that the point contains so much gutta-percha, and so little of the medicament, that the crayon is practically inactive.

CONTINUOUS VENTILATION IN ACUTE EXANTHEMATA.—Dr. L. Kuglemann (*Deutsche Klinik*) treats his patients affected with either of the acute exanthems—scarlet fever, small-pox, measles, &c.,—with free ventilation; the doors and windows being left open, care being taken not to expose them to a direct current of air.

In the winter it is equally beneficial, especially when the temperature of the air of the patient's chamber ranges above from 12° to 14° R. Dr. K. has treated 5000 cases of measles, and 150 of scarlet fever, without the loss of a single patient, and without the occurrence of any secondary disease, or any serious complication.

SUCCESSFUL REMOVAL OF A CANCEROUS TESTICLE WEIGHING FIVE POUNDS.—A. J. Sawyer, M.D., Monroe, Mich. (*The Med. Investigator*), lately removed a cancerous testicle, weighing five pounds, from an Englishman, æt. 40, who received an injury to the right organ some five years since, by falling from a vehicle on to the shaft, while the horse was running. At the time of operating, there were two large openings in the tumor, situated upon and perforating the anterior aspect of the scrotum, the result of punctures with an exploring needle in the hands of one of his former physicians. The patient being anæsthetized, the first incision was made, beginning just below the external abdominal ring and extending down about 3 inches to near the right opening, passing through the envelopes of the spermatic cord and vessels. From the lower extremity of this, a semi-lunar incision was made on each side of the two openings—one of these openings was situated at about one inch below and to the right of the penis, and the other about one inch and a half to the right of the first, while both were located at about 8 inches from the lower extremity of the distended and diseased scrotum—of about 8 inches in length. That on the right of the operator was not carried at any point beyond the scrotal septum. The tumor was then dissected out, and *from* the median line carefully avoiding the *septum scroti*, the opposite testicle, the penis, and its connections with the body.

In order to reach the limits of the disease, the incision was extended through the inguinal canal to the internal abdominal ring, just below which the cord took on a healthy character, where it was ligated and the tumor removed. The loss of blood was very slight, the superficial perineal being the only artery that bled, and the only one ligated except the spermatic.

The wound being thoroughly cleansed and well washed with *arnica* and water, the lips were closed with divided sutures, except for a short distance at the lower and upper commissures of the wound, the former for the exit of blood, pus, etc., and the latter for the protrusion of the ligatures of the spermatic cord and artery, as well as for the discharge of the secretions. The whole was then covered with cloths saturated with *arnica* and cold water. Nothing else was ever applied, and in 7 days the wound was entirely closed, except where the ligature passed through, leaving a cicatrix 8 inches in length. The ligatures were removed on the 9th day; on the 14th the patient had his clothes on, and was fairly convalescent.

"MODIFIED LINEAR EXTRACTION" IN CATARACT.—Drs. H. D. Noyes, of New York, and E. Williams, of Cincinnati, have communicated two interesting papers on "Linear Extraction of Cataract" in the *Transactions of the American Ophthalmological Society*. Dr. Noyes is in favor of an incision of from five to five and a half lines (5‴ to 5½‴) in length. From four and a half to five (4½‴ to 5‴) lines is advocated by Dr. Williams, which accords with the views of V. Graffe. Dr. N. and Dr. W. make the middle of the incision as nearly as possible in the corneal margin; Prof. Knapp makes it in the sclerotic, at least half a millimetre (1-4‴) from the edge of the cornea. "From the point the cutting edge is the arc of a circle of 4 inches radius; at the summit of the arc the edge is prolonged backwards, parallel to the (straight) back, for a distance of four lines, making the distance from point to heel one and a quarter inches."

These knives are of two widths; the largest measures four millimetres, the smallest, three.

With reference to anæsthetics in the operation, Dr. Noyes employs *chloroform* to the extent of producing profound narcotism. Dr. E. Williams has given up anæsthetics altogether, "except in persons who have little or no self-control, or who refuse to make the trial."

Of 168 operations, according to this method—21 reported by Dr. Noyes, 47 by Dr. E. Williams, and 100 by Prof. Knapp—restoration of vision was perfect in 143, or 85 per cent.; partial in 15, or 9 per cent.; eye lost in 10, or 6 per cent.

Drs. Williams and Noyes advocate this measure over those previously employed.

GANGRENOUS STOMATITIS.—R. S. Anderson, M.D., of St. Louis (*The Med. Archives*), reports two fatal cases of gangrenous stomatitis, following measles, and alludes to three others which occurred in St. Louis. These cases are published on account of the variety of the disease, its extreme severity, its rapid progress, and its resistance to all the therapeutic means employed.

The disease is so rare that Dr. West states that he has only had the opportunity of witnessing it in 10 cases, in 8 of which the patients died. Rilliet and Barthez notice 21 cases, of which 20 died; and another French observer, M. Tourdes, has collected from different sources 239 cases, which, however, did not all occur in children, of which 176, or 75 per cent., terminated fatally. In the large majority of cases, measles is reported as the primary cause, though it has also followed typhoid fever, scarlatina, variola, and intermittent and remittent fevers.

THE BEST ANÆSTHETIC MIXTURE.—Dr. A. E. Sansom, of London (*Trans. Lond. Obstet. Soc.*), feels assured that the anæsthetic mixture to be recommended in obstetric practice should consist of one part of chloroform to two of absolute alcohol.

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OUR UNSUCCESSFUL CASES.

THE confession of sins, either of omission or commission, is so distasteful to poor weak human nature that there is always more or less of a disposition to dodge it. Even when our errors, from the circumstances of the case, are unavoidable, there is a natural dread of spreading them before the criticising review of our fellows. We are in general so impressed with our own imperfections and our many short-comings, that the temptations are too great for many of us to hide them, in the fear of risking what little reputation we may have for skill, good judgment, and perhaps even of common sense. Then, again, desire to appear in the best possible light not only prompts the premature reporting of successful cases, but causes too many of us to be indifferent as to their subsequent history, more especially if the death of the patient subsequently occurs as the direct result of the particular treatment. We quiet our consciences by all sorts of subterfuges, until in the end we too easily coax ourselves to forget our most important duty. This disposition is so generally appreciated by the profession at large, that all remarkable, sudden, and miraculous results are naturally looked on with suspicion, and lay the foundation of a ruinous distrust of each other. How often, with good reason, is it asked of certain individuals who make themselves more than ordinarily successful, "Is he trustworthy?" And how often must the reply be a negative!

The persons who are thus constantly violating the responsibilities which they owe to their profession, would have us believe that with them no accident or mistake can occur; that they, instead of being the humble instruments of scientific progress, are capable of making even science accommodate itself to any peculiar whim which they may have, and compelling it to violate every well-recognized law. It is pretty generally believed that the law of accident is a settled fact, and that the conditions must be fulfilled with as much precision as those of any other. The statistics of any particular operation cannot exceed a given ratio of successes; the calculations of careful and conscientious observers cannot and must not be overthrown because any aspirant for fame chooses to belie them by his own reported experience. We do not mean to be understood as saying that one individual cannot be more successful than another, but that his triumphs must not so far exceed the average of those equally skilful as to strike a candid investigator with astonishment. Again, an operator or a physician may be extremely fortunate for a time, but this is by no means an argument to prove that he must always be so. On the contrary, the balance in favor of the general average of successes will be struck in the long run, and the chances are quite certain that the number of cures, one after another, will in time be succeeded by a balancing number of failures, which generally follow each other with a given rate of rapidity. Those who have studied the subject affirm that there is not only a law of accidents, that is the more uniform in its workings as it is the more thoroughly investigated, but that certain sets of accidents occur epidemically—such, for instance, as railroad collisions, steamboat explosions, etc., etc.; and that when there is an immunity enjoyed for a longer period than ordinary, some terrible and extensive catastrophe supplies, in a given period, its due number of victims. That the working of the same law is evident in the average successes, failures, and mistakes in medicine and surgery, statistics unequivocally prove, and naturally throw a cloud of distrust over many an otherwise brilliant and extraordinary triumph.

No one can be proof against failure or mistake, any more than he can perform miracles. The best of us are constantly liable to err when, from the facts of a given case, it might appear the most improbable, and for which, in the majority of cases, we are in no wise to blame. But the greatest wrong we do to ourselves is in not being reasonably and conscientiously candid with each other. That we learn more by our failures and mistakes than we do by our successes, is a truism which no practical mind can gainsay, but, notwithstanding, we are constantly shrinking from our most important duties. The true scientific investigator must lose sight of self entirely; and his aim to arrive at the truth, and the truth only, must lead him to report his failures more frequently than his successes. All of us, in our investigations of disease, have difficult roads to follow—pathways that are strewn with pitfalls and sloughs; and those who have gone before owe it to us to point them out, that we may profit by their experience. Can we expect to gain anything if such facts are persistently held from us by the promptings of false pride and hypocrisy?

It must be admitted that the detailing of our mishaps is a trial of moral courage; but any one who is even ordinarily skilful always gains more by it than he loses in the estimation of his professional brother. If it be a clear case of oversight, the sympathies of his listeners are always with him; and if distrusts of skill arise in their minds, they are at once more than replaced by esteem for him as a candid, modest, and determined ob-

server. It is only such as feel that they have something in them for good, that have studied well and patiently the cases that have been presented to them, and that have a single desire to arrive at the truth for the truth's sake, that can afford to recite their failures, and when called to the diagnosis of a doubtful case can defiantly say, "I do not know." Show us a man who thinks he can never make a mistake in diagnosis, and we will show you one who is not much addicted to making post-mortem examinations.

Every one who has been any time engaged in practice, knows by painful personal experience how impossible it is to be infallible; how often the judgment is in error; how often the very senses are apt to deceive us; how often we drift into what are afterwards found to be unwarrantable conjectures, and how many sins of omission as well as commission we find we have been guilty of, when, alas! it is too late to undo them. It is natural to assume that the vast majority of these experiences are seldom if ever made to benefit more than one individual, who makes himself doubly the sinner by refusing an item of experience which might, in similar cases, not only mitigate much suffering, but actually be the means of saving life. When such considerations as these come up, is the self-love of the sinner, his desire to maintain what he considers his fair fame, or is even the wish to escape ridicule, sufficient to excuse his silence?

It is pleasant to note the desire for mutual improvement throughout the medical profession of the country manifest in a determination to maintain the healthful action of the State Societies. Every State, with a few exceptions, has a medical organization which is in a prosperous condition. Not the least among these is the youthful and vigorous State Society of Iowa, which held its second annual meeting the first of last month at St. Paul, Minn. Its proceedings were characterized by the purest of motives to elevate the profession and enforce the code of ethics of the American Medical Association. Our Western brethren are in earnest in reference to their opposition to quackery in every shape, and if they continue as they have begun, and the members govern their actions in accordance with their principles, many older and more influential societies in the East will be left in the background. Dr. Samue Willey, of Saint Paul, has been re-elected President, an honor to which his position as a leading practitioner of the State, and his special exertions in bringing the Society into existence, justly entitles him.

Inasmuch as the subject of Relapsing Fever is at present claiming so much attention, we have endeavored to supply the demand for information on the subject by the publication of a lecture by Prof. A. Clark, and one by Prof. A. L. Loomis, both of which will, we trust, be read with interest and profit.

Reviews and Notices of Books.

Moral, Intellectual, and Physical Culture; or The Philosophy of True Living. By Professor G. Welch, of the Department of Physical Culture, Yale College. New York: Wood & Holbrook. 1869.

The principal fault we have to find with this book is, that it contains a little of almost everything. The author has attempted too much. That portion of the work devoted to gymnastics is full and instructive, though very like what Dr. Dio Lewis has long taught. In the treatment of moral and intellectual culture, Dr. Welch is evidently out of his depth; so he contents himself with stringing together a host of well-worn axioms and scriptural quotations, that can be as well found elsewhere. The remarks on diet, bathing, exercise, &c., show considerable ignorance of hygiene, and are often calculated to mislead the credulous, though the intentions of the writer are doubtless good. Some of the statistics are interesting, and many old facts are presented in a new and attractive garb. Altogether, as a medley of gymnastics and religion, physiology and morals, poetry, rhyme, and old proverbs, this elegant little volume is probably without a rival in the English language.

The Intermarriage of Relations and the Laws of Human Increase. By Nathan Allen, M.D.

Dr. Allen is one of the few in the profession who make it their duty and their pleasure to call the public attention to the important themes of science.

The essay of Dr. Allen on *The Law of Human Increase* has already been made familar to the profession and to the people, and has attracted something of the attention that it deserved. The paper on the Intermarriage of Relations, which is a continuation of the same subject, and really a part of it, discusses an important question concerning which there is now an honest difference of opinion among men of science. Without entering into detail, we may say in general that on this subject we agree substantially with the *Journal of Medical Science*, that the intermarriage of cousins by no means necessarily tends to degeneracy, and that their offspring may, in some cases, be all the sturdier for the relationship of their parents. Our creed on this subject, compactly stated, is this: Children take their qualities, good and bad, from both parents and their ancestors. Qualities which are common to both parents are twice as liable to be inherited as those which exist only in one parent. In hereditary descent evil qualities are more potent for evil than good qualities are for good, just as a little sediment easily renders a clear and pure mass of water turbid and foul. Blood relations are more liable to have qualities in common, either good or bad, than those who are not blood relations; and as evil qualities are more potent for evil than good qualities are for good (one bad diathesis being sufficient to vitiate and destroy all other elements of character in a family), therefore the immediate, or more usually the remote, offspring of blood relations are more likely to be inferior in descent than the offspring of parents who are not blood relations. But the evil consequences of the intermarriage of cousins are not such as to justify any prohibitory legislation.

Concerning the Law of Human Increase propounded by Dr. Allen, we desire to present the following queries:

1. Is it desirable that population should increase with rapidity? Dr. Allen seems to assume that it is. Is a community or nation where there are *eight* children in a family necessarily more happy, more prosperous, and

more wise than a community or nation where there are *two* children in a family? Not population, but righteousness exalteth a nation. Is it not a fact of comparative physiology that the productiveness of organized structures increases inversely with the complexity of organization; that those millions lowest in the scale are millions and millions of times more productive than man, who is highest of all; that between the most intellectual of mankind and the lowest and simplest forms of animal life, there is a gradation of productiveness which, with irregularities that can be explained, corresponds to the complexity of structure? The lowest types multiply by millions. A single *frustule* of the *Diatomacea* produces 1,000,000,000 in one month; the *Gonium*, 268,435,456 in a week; a *Paramecium*, 268,000,000 in a month; a species of animalcule, 170,000,000,000 in four days. Types which are higher multiply only by millions, and thousands, and hundreds. Fish are very prolific, though less so than the still lower types. The cod spawns a million at once; many fish spawn by thousands. Types that are higher still breed by tens. The annual production of the partridge is 10 or 15; of the grouse, 10; of the pheasant, 10; of the small rodents, 10 at a birth. The rate of multiplication of the domestic animals is well known. Man produces slowly, and after many years of preparation. Intellectual men—the very highest orders of the human race—are notoriously unprolific. The comparative estimate is variously modified by external conditions and by activity, but in the average the law holds. The subject in all its bearings is ably discussed by Herbert Spencer in the last chapter of his Principles of Biology.

We hold that the civilization of the future will be less prolific than that of the present; but that the quality will, a thousandfold, compensate for quantity. It was said of Dr. Chalmers, "he was not one man, he was a thousand men." Better one child well trained to virtue and raised to usefulness than a million neglected into misery and starved into crime. The curse of England to-day is the 12,000,000 of her wretchedly poor, who rise in the morning not knowing where they will get their breakfast. We hold that every child born to such parentage is an unnecessary and lamentable addition to the world's sin and sorrow.

2. Is it true that a proper balance of temperaments is the great cause for fertility? Consider the wondrous fertility of the Irish and English peasantry. Are their temperaments well balanced? Herded in sensuality, grovelling in ignorance, darkened by despair, bruised and crushed by social prejudice, their brains coarsely organized, poor in quality, fallow, idle, muddy as the bogs in which they live, oppressed by superstition, which, after all, is the chief feature that helps to raise them but a little above the swine droves, by whose side they promiscuously sleep—are these drunken animals, with just force enough to breed, well-balanced temperaments? No; fertility is a vast and complicated theme. It depends not on one or two, but on a wide and diverse range of factors—diet, air, climate, education, race, special temperament, and the relation of temperament, occupation, social influence, and means of subsistence.

3. Is it desirable that the human temperaments should be well balanced? Is harmonious development the end of existence? Dr. Allen assumes that it is, and the general voice of intelligent mankind would theoretically agree with him; and yet we contend that the question is an open one at least. Is not the highest culture of the brain, with all the rest of the body in subjection to, and subordinate to it, preferable to an even culture of the whole man? Are not Virgil, Raphael, Shakspeare, Pascal, Edwards, Schiller—all of whom cultivated the nervous temperament at the expense of the muscular, the sanguine, and the lymphatic—of more value to the world than thousands of properly balanced temperaments?

Is not a scientific cause more weakened than strengthened by appeal to the authority of the Bible? There is not a scientific theory, fact, or principle, that has been originated, elucidated, or fortified by any appeal to the Scripture, considered as a divine revelation; on the contrary, all the sciences have been retarded, hampered, perverted, by the attempts that have been made either to sustain or refute them by reference to the Bible as an authority in science. Suggestive and interesting *illustrations* of scientific truths may indeed be drawn from Scripture, but all attempts to build up or sustain any scientific theory by scriptural *arguments* must re-act injuriously not only on science, but also on religion itself. Between Genesis and Revelation, we find no light on the difficult and complex subject of human increase, nor on any other question of physiology or hygiene; and any arguments wrought out of interpretations of Scripture as a guide in science, either for or against scientific theories, will not stand for a moment among the scientific leaders of the present generation.

In conclusion, we cannot speak too warmly in praise of the efforts that Dr. Allen has so successfully made to enlist the public interest in this vast and important theme. It is because we do thus highly appreciate his very able and interesting pamphlet, that we have preferred, in the interests of science, to indicate wherein his argument appeared to us deficient or untrue, than to refer to the many points with which we are in perfect accord, and which we could unreservedly praise. The problem of population, in its broadest range, includes all other social problems,—the relation of the sexes, the status of woman, labor and capital, &c., &c.,—and he who solves it will solve the problem of existence.

MANUAL OF HYPODERMIC MEDICATION. By ROBERTS BARTHOLOW, A.M., M.D., Professor Mat. Medica, &c. 12mo, pp. 150. Philadelphia: J. B. Lippincott & Co. 1869.

THE author of several prize essays, upon subjects demanding an extensive acquaintance with new remedies, appears before us once more in a neat and interesting little volume, full of historical, technological, and therapeutical instruction, in relation to the instruments and methods used in the hypodermic administration of medicines. The principal agents utilized in this manner are treated of, more or less at length, in fifteen chapters, which form the second part of the volume. Those devoted to Morphia, Atropia, and Strychnia are particularly worthy of mention. Woorara, Nicotia, Physostigma, Caffein, and Ergotin appear as subjects of others. Each of these chapters opens with a description of the solution and dose, and contains a statement of the physiological effects and medical uses of the remedy under consideration.

The whole is enriched with many practical suggestions, and some carefully conducted experiments upon the human subject.

The book is well worth a careful perusal.

THE LIVERPOOL MEDICAL AND SURGICAL REPORTS. Vol. III. Edited by Drs. P. M. BRAIDWOOD and REGINALD HARRISON. London: John Churchill & Sons. 1869.

THE aim of this journal is to present, in an interesting form, all the valuable medical information that can be collected in Liverpool and vicinity. The present volume contains fifteen original articles by gentlemen well known in the profession, including Drs. Wollaston, Harrison, Bickersteth, Lyster, and Braidwood. The

latter gentleman contributes his views on the treatment of croup and diphtheria, with statistics regarding tracheotomy. A chapter on sea-sickness, by Dr. De Zouche, enters thoroughly into the pathology and rational treatment of that malady. A large number of cases appropriate to the subjects discussed are recorded in the Reports.

BELLEVUE AND CHARITY HOSPITAL REPORTS. D. Appleton & Co. 1870.

THE Reports of our metropolitan hospitals, affording, as they do, a vast field for clinical observation, are destined to fill an important place in the medical literature of the future. We had expected to see in the first volume of Bellevue Reports something more imposing than the volume before us; something that would compare more favorably with the elaborate reports issuing from the London hospitals. The volume opens with a brief historical sketch of Bellevue Hospital, and some notice of its founders and early patrons. The first article, on procidentia uteri, is contributed by Prof. Taylor, and contains much regarding amputation of the cervix, and the views of Huguier, that sounds familiar. The cases, however, are of decided interest. Austin Flint, Sr., contributes his opinions on the diagnosis of pulmonary and cardiac diseases, and gives an analysis of one hundred and two cases of Bright's disease. Dr. Sayre gives the results of his experience in fractured clavicle, and in diseases of the ankle-joint. Dr. Hamilton is the author of an article on Hernia, with seventy-three cases. Dr. Metcalfe furnishes a compilation of amputations, performed at Bellevue. Dr. Hammond gives his views and experience on the effects of intellectual exertion, and Dr. Thomas contributes the history of nine cases of ovariotomy. The report of the Pathological department, by Drs. Southack, Janeway, and Delafield, is highly interesting, and the classification adopted seems excellent. We find nothing whatever on obstetrics; and while the Reports are good as far as they go, we cannot regard them as particularly creditable, in quantity or variety, to institutions possessing extraordinary clinical advantages, and looked upon as the leading hospitals of the country.

OBSTETRIC APHORISMS. By JOSEPH G. SWAYNE, M.D., of Bristol. From the fourth English edition. Edited by E. R. HUTCHINS, M.D. Philadelphia: Henry C. Lea. 1870.

THE object of this little manual is to furnish, in small compass, such practical directions for the management of ordinary and extraordinary cases of labor as may be acceptable to the young practitioner, and to point out more particularly the emergencies in which assistance should be sought. It contains many useful hints regarding the care of both mother and infant, and well deserves the popularity it has attained.

A PRACTICAL TREATISE ON THE DISEASES OF CHILDREN, by ALFRED VOGEL, M.D., Prof. Clinical Medicine in the University of Dorpat, Russia. Translated and Edited by H. RAPHAEL, M.D., late House Surgeon to Bellevue Hospital, etc. From the fourth German Edition. Illustrated with six lithographic plates. New York: D. Appleton & Co. 1870. 8vo, pp. 603.

THE work before us, for the first time in an English dress, comes with the endorsement of a fourth edition in German, and a translation into three other languages. Very little more need be said in its recommendation, except perhaps to refer to the very acceptable manner in which Dr. Raphael has discharged his duties. The work, as a whole, is a clinical record of the more common diseases of children, by a most careful, conscientious, and painstaking observer. The descriptions of the symptoms of the different maladies, from the most trivial to the most important, are very minute, accurate, and intelligible, while the therapeutics are carefully discussed. The remedies advised are few, and are only such as the experience of the Author has led him to endorse as really serviceable. The pathology is fully up to that of the German school, which is saying everything for its thoroughness and accuracy. To convey some idea of the practical character of the work, we select at random the following:

"*The Signification of a Coated Tongue in Children.*—It is necessary, first of all, to state that most nurslings, in the first weeks of life, have a white coated tongue, along with which they do not display the least digestive disturbance. Aside from that, the tongue becomes coated in most of the gastric and intestinal affections of small children, and probably only in consequence thereof does the appetite decrease. A thickly furred tongue is but seldom met with in children; as a rule, a white flush only is observed, but this may exist for a long time after the appetite has returned, and may just as well be produced by local diseases of the mouth, thrush, stomatitis catarrhalis, diphtheria, injuries, chemical irritants, and burns, as by disease of the stomach or bowels. There are also permanent, or at least of several months' duration, partially coated tongues, which possess no influence whatever upon the continuation of good health. A special name has even been invented for this condition, *pityriasis linguæ*. It consists of white islands, or circles or semicircles, the rest of the tongue being of a nominal rose-red tint; these spots are entirely indebted for their origin to an accumulation of epithelium-scales. In atrophic children, transverse fissures are often seen upon a very smooth, red tongue; the fissures display yellow bases, obstinately resist the cauterizing treatment, and do not disappear before death. The furred tongue of measles, scarlatina, typhus fever, etc., has the same significance in older children as in adults, and will be specially described with every individual affection."

We might select other remarks equally to the point and equally practical, but one must answer for the whole, and we will content ourselves by giving the reader the general plan of the work, with the recommendation that he examine into details himself. First in the natural order are the introductory remarks relating to the peculiarities of the child, in an anatomico-pathological point of view, particularly with reference to the respiration and circulation, the secretions and growth. The general rules for the examination of children, which follow, are plain and to the point, which may also be said of those for the nursing and care of children, comprising Chapter III. The second part of the treatise is devoted to special subjects: 1. To those diseases the direct result of delivery. 2. To those of the digestive, circulatory, and respiratory apparatus; to those of the nervous system, of the urinary organs, skin, and secretions in general. Six beautifully executed lithographic plates, illustrating the text, add much to the value of the work, aside from its elegant typographical execution. The profession of this country are under many obligations to Dr. Raphael for bringing, as he has done, this truly valuable work to their notice, and placing it within the reach of every one not able to read the original.

ON THE WASTING DISEASES OF INFANTS AND CHILDREN. By EUSTACE SMITH, M.D., London. Phila.: Henry C. Lea. 1870. 1 vol. 8vo, pp. 195.

THE name of "Smith" seems to be an authority on the treatment and knowledge of the diseases of children.

Last year we had the pleasure of scanning, for the first

time, the pages of a work entitled, "A Practical Treatise on the Diseases of Children," written by J. Lewis Smith, M.D., of our own country, regarded as one of the best text-books on this subject.

The work now before us, beautifully written and arranged by the London teacher, which has been published in parts in the *Medical News and Library* during the past year, treats of those subjects which are not sufficiently dwelt upon by our American and foreign writers in their extended monographs on the ailments of the young. In fact the author states in the preface that he "had not long begun the study of children's diseases before he found that even the best systematic treatise dealt but imperfectly with the clinical condition of chronic wasting, and did not consider together the various disorders to which it may be due." It is offered as a contribution to the literature of the diseases of children, in the hope that the practitioner may have some practical guide in the management of this fatal condition. Dr. S. is on the right track, and deserves praise for this contribution, which helps to fill the blank now existing in the clinical knowledge of diseases occurring among the little folk.

The book opens with an introduction, and is divided into *nine chapters*, which treat of "Simple Atrophy from Insufficient Nourishment," "Chronic Diarrhœa," "Chronic Vomiting," "Rickets," "Congenital Syphilis," "Worms," "Chronic Tuberculosis," "Chronic Pulmonary Phthisis," and "Tuberculization of Glands." The subjects treated in the last five chapters cannot be equalled in any work previously written on this branch, and should be read by every physician who wishes to learn all that is worth knowing concerning the *wasting diseases* of children.

THE PHYSICIAN'S HAND-BOOK for 1870. By Drs. WM. ELMER and ALBERT D. ELMER. New York: W. A. Townsend & Adams, Publishers. pp. 287.

THIS handy and compact pocket manual for the medical practitioner is so well known that it requires no laudation from our hands. It opens with a full "Index to Diseases," classified according to the latest authorities, with every known symptom. This portion, occupying the first 48 pages, with the "List of Incompatibles" and "Remedial Agents," is very complete, and is a valuable aid to the medical man in the way of refreshing the memory in materia medica and therapeutics.

The "Diagnostic Examination of the Urine" contains very complete and practical directions for the examination of this important secretion. We should like to see similar directions in other pocket companions.

The remaining pages are devoted to the Calendar for 1870, Names and Addresses, Bills and Accounts, Record of Practice and Treatment, Table of Signs for Daily Practice, Obstetric Record, Diagnostic Record, Obstetrical Calendar, and General Memoranda.

The physician will hardly find a more complete and useful diary than this one just issued by this enterprising publishing house.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA AT ITS TWENTIETH ANNUAL SESSION, HELD AT ERIE, JUNE, 1869. Fifth Series. Part II. Paper, pp. 305.

THE Medical Society of the State of Pennsylvania met in the Court-house at Erie, June 9, 1869, Dr. John Curwen, of Dauphin County, President, in the chair, supported by Vice-Presidents Drs. W. M. Wallace, of Erie, and P. D. Breinig, of Northampton.

DR. GEO. C. BENNETT, of Erie, in welcoming the delegates, stated that it was less than a quarter of a century since the Society first met in convention, and only *two* of the original members were present.

The address of the President on "Mental Disorders" and their management will well pay perusing, and those forms of insanity called "Bell's Disease," or, by English writers, "typhomania," "folie circulaire," described clearly and accurately by Dr. Isaac Ray, and "general paresis," are minutely referred to, and he wishes to impress upon his medical confrères the importance of early treatment in the first stages of all mental disorders.

In the report of the Committee on "Intemperance as a Disease," Dr. Joseph Parrish, chairman, it is stated that from 30 to 50 per cent. of cases of habitual alcoholic intoxication are curable, and they make the additional statement that 90 per cent. of opium cases are recoverable under institution treatment.

PROF. GROSS, M.D., LL.D., presented an able report "On the Training of Nurses," which will be sent to the State Medical Societies of the different States of the Union, inviting their coöperation in the establishment of schools for the training of nurses for hospitals and private families in accordance with the principles therein advocated. A novel case of *longitudinal rupture of the uterus*, involving the whole texture of the organ, was reported by J. McConaughy, M.D. This was the only case he had the misfortune to meet with in a practice of over thirty years, and the only one that has happened in Westmoreland County, Pa. The "Report on Use of Stimulants by the Profession," read by Dr. H. Corson, chairman, takes strong ground against the indiscriminate employment of alcoholic liquors in disease. In regard to the employment of whiskey as a cure and preventive of consumption, let the report speak for itself: "There is scarcely a single person in the whole country threatened with or suffering from that disease who is not dosed daily with either brandy or whiskey, in large doses, by advice of the physician, who conscientiously regards them as the great remedies to increase vital force, and thus avert the disposition to tubercle. From most careful observations made in a large region of country, when the history of every case of phthisis could be ascertained from week to week, we have failed to discover the least benefit derived from the use of alcohol, either as a preventive or remedy in that affection."

The remaining portion of the "Transactions" is taken up with the county reports on the prevailing diseases of each section of the State, mortality, etc., etc.

The list of *permanent members*, thirty-four in number, and the *code of ethics*, are also appended.

Philadelphia is the place for holding the meeting in 1870, and W. M. Wallace, M.D., of Erie County, will preside on that occasion.

LOSS OF WEIGHT BY STARVATION.—Dr. Nicholson, of Portland prison, England, mentions a case where a convict starved himself voluntarily for some days. On the sixth day of absolute starvation he had lost 7 lbs., having weighed at first 107½ lbs., and thus falling to 100½ lbs. The heart sounds were faint, and the pulse soft and low. The urine very acid. No albumen. On the 10th day he took all the diet allowed, and regained his original weight on the 13th day.—*Med. Press and Circular.*

BELLADONNA IN WHOOPING-COUGH.—Dr. Wordsworth, of England, thinks that the disease can be "greatly cut short" by giving the extract of belladonna in increasing doses, until the pupils remain widely dilated.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

STATED MEETING, JAN. 26, 1870.

DR. J. C. HUTCHISON, PRESIDENT, in the Chair.

MISCELLANEOUS SPECIMENS.

DR. FINNELL exhibited some fragments of gall-stone removed from a gentleman eighty years of age, who died of fatty heart; he likewise presented a specimen of perforating ulcer of the duodenum from a patient fifty years of age, who was found on the street vomiting blood. The stomach as well as the duodenum contained large clots. The perforation was the diameter of a goose-quill. There were evidences of peritonitis in the neighborhood. A third specimen was one of epithelial cancer of the lower lip, extending from the commissure to two lines beyond the median line, removed by operation; and the fourth was a specimen of cancer of the omentum in a hog.

FRACTURE OF OUTER PORTION OF HEAD OF RADIUS.

DR. MASON exhibited first a rare specimen of fracture of the outer portion of head of the radius, removed from a dissecting-room subject. In looking over the literature of the subject, he had found but two similar instances mentioned by Hamilton in his work on fractures, which were in Mütter's cabinet, and one by Dr. Gross, also met with in a dissecting-room subject.

REMOVAL OF SUPERIOR MAXILLA.

A second specimen was the entire right superior maxillary bone, removed by operation from a patient aged 20, in the Colored Home Hospital. He had been perfectly healthy until the summer of '68, when he commenced to have a pain in the molar region of the right upper jaw, which was soon after followed by a tumor in that locality. Subsequently the teeth in the neighborhood were removed, but the growth continued to increase steadily until the time of the operation. The usual incision was made, when it was discovered that the orbital plate was involved. The periosteum was separated from this portion as far back as the spheno-maxillary fissure, a chain saw passed through the same, and the whole mass was without difficulty removed. The patient at last accounts was doing well. The tumor had been examined by several gentlemen, who declared it to be myeloid in character.

HAIR-PIN IN TRACHEA—EMPHYSEMA, ŒDEMA GLOTTIDIS, TRACHEOTOMY AND DEATH.

A third specimen exhibited by the same gentleman was a hair-pin removed from the trachea of a child seventeen months old. It had been accidentally swallowed by the patient while at play. Dr. Mason saw the case about an hour after the accident, and after a great number of unsuccessful attempts had been made to extract the foreign body. Passing the finger down the œsophagus, about ¼ of an inch of one of the prongs was reached. After anæsthetizing the patient, the pin was with some difficulty removed by the œsophageal forceps. The throat was discovered much swollen, and there were marked evidences of emphysema, giving rise to the suspicion of a laceration of the trachea. This, however, could not be positively determined by any digital examination made at the time. After the operation the child seemed quite comfortable, and Dr. Reynolds, the partner of Dr. Thebaud, in the absence of the latter gentleman, whose patient it was, watched with the case. In the course of an hour afterwards, Dr. Reynolds sent for Dr. Mason to perform tracheotomy, as the patient, from the extension of the emphysema (which at that time had reached as far as the navel on the left side), and the consequent increase of the suffocative symptoms, was in danger of dying. Everything was made ready for the operation with the greatest despatch, but just as it was about to be commenced the lips resumed their natural hue and the urgency of the symptoms passed off. Shortly after Dr. Thebaud arrived, and while talking over the case the alarming symptoms again showed themselves, when that gentleman performed the operation at once. The patient passed a very comfortable night, the emphysema began to disappear, and everything promised well. About ten o'clock the following morning an urgent message was received by Dr. Mason to the effect that the child was in convulsions. These latter continued at intervals until death took place, shortly after twelve.

No autopsy was allowed. An examination of the throat was made by the finger, the jaw being firmly depressed, but no laceration of the trachea could be discovered, although without doubt such a condition of things existed. Extensive œdema glottidis was very evident.

In conclusion, he remarked that two large veins, the size of crow-quills, were found traversing the field of the operation, and recollecting an accident that had happened to Dr. Sands when the same condition of things had existed, at his (Dr. Mason's) suggestion these were both tied with a double ligature before being divided, with the result, no doubt, of preventing instant death by the entrance of air into the circulation.

DR. SAYRE expressed his regret that no autopsy could be obtained, and suggested the propriety of turning such cases over to the coroner, who would compel the necessary examination.

DR. SANDS was of the opinion that the law required only the assertion from the physician as to most probable cause of death.

DR. FINNELL thought that the only justification for such a procedure in the given case was a reasonable doubt as to how the hair-pin gained its entrance into the throat.

INFLAMMATION OF APPENDIX VERMIFORMIS—RUPTURE CAUSED BY OVER-EXERTION.

DR. EAGER exhibited an appendix vermiformis with perforation, removed from a single gentleman, thirty years of age, a native of Massachusetts, and a merchant of this city. At the second battle of Bull Run, in 1862, while serving as an officer in the army, he received three flesh wounds in different parts of his body, besides being struck with a flattened spent ball in the right iliac region. This latter occasioned him at the time more pain and inconvenience than all the rest, although at the point of injury nothing more than a slight scratch was discoverable. His neighboring clothing was, however, torn, showing that the missile must have come with considerable force. So much was he disabled by the latter bruise that he could not get himself from the field, and, after remaining there for the better part of two days, was duly exchanged.

He shortly after regained his usual health, and enjoyed it until the fifth of last December. He went to church twice on that day, ate a hearty dinner, and spent the evening with some bachelor friend, returning home about half-past ten. About two o'clock the following morning he awoke with intense pain in his bowels. His fellow-boarders, being called, plied him with the usual domestic remedies, but with little benefit. Towards daylight he vomited once. This

was the only time during the whole sickness that this symptom showed itself.

The patient, residing in the same house with Dr. Burke, was seen by that gentleman, who prescribed for him various remedies, among which were leeches. These latter the patient was not at first inclined to have applied, until the urgency of his symptoms in the evening compelled the doctor to insist upon it. When Dr. Burke first saw the patient the pulse was 104, and there was complaint of intense pain at a point on the abdomen two inches in diameter, just above Poupart's ligament. Following the leeches were hot fomentations, with a grain of opium every two hours.

Dr. Eager saw the patient about noon on Tuesday. The pulse was then 108; there was intense thirst, the skin was moist, and there was no tympanitis, neither was there any tenderness until the spot previously indicated was reached, when pressure gave rise to exquisite pain. No position would give him any ease. The quantity of opium was increased, and oiled silk was added to the fomentations. When Dr. E. saw him again in the evening, he seemed a good deal relieved from pain, although his pulse remained considerably above 100. His respirations had decreased from 36 in the morning to 24. He slept, perhaps, half the night.

On Wednesday morning about eleven o'clock his pulse was 96, and respiration 15, in which condition he continued until nine in the evening, his mind remaining perfectly clear, there being no evidences of peritonitis, and the point of tenderness not being as painful as before. At this time, without having previously had any trouble with his water, he was seized with a desire to urinate, and for that purpose arose and made several unsuccessful attempts to relieve himself. At eleven o'clock Dr. Burke catheterized him, and drew off eight ounces of dark-colored urine. At three o'clock the following day, the patient was rather suddenly seized with tenderness and intense pain over two-thirds of the abdomen. Dr. Eager was immediately sent for, and arrived at four, when Dr. Parker was called in consultation at five. There was no tympanitis at this time, neither was there any throughout the whole progress of the case. The patient was examined carefully, with a view of ascertaining if there was any abscess forming. No evidence of such a condition could be found, and it was rather a question whether or no the appendix was involved in the peritonitis, which, by the way, was then very evident.

He went on rapidly getting worse, and finally died on Saturday morning at five o'clock.

The autopsy was made thirty hours after death by Dr. Mason. On opening the abdominal cavity there were evidences of intense peritonitis; everywhere the peritonæum was intensely injected, and the intestines were firmly and extensively glued together by adhesions. Large patches of lymph were seen in many places, and some of these equalled in thickness the breadth of the little finger. The parts were carefully raised, and the appendix was easily discovered attached to the abdominal walls of the right iliac fossa; and to avoid tearing, Dr. Mason dissected the peritonæum covering the parietes sufficiently far to enable him, after tying the appendix, to remove the whole specimen uninjured. The process was an unusually long one, and about its middle was an enlargement twice the diameter of the organ at any other point; and just above this bulging portion, and near the gut, was the point of perforation. From the distension six small bodies were removed, resembling in shape and appearance ordinary mouse-dung.

In conclusion Dr. Eager remarked that this perforation, in all probability, did not occur until such time as the patient left his bed, and exerted himself to pass his water. If that were true, a practical lesson could be drawn, never to allow the least exertion on the part of a patient while suffering from inflammation of that particular organ.

INFLAMMATION OF APPENDIX WITHOUT PERFORATION.

Dr. Flint commended the suggestion of Dr. Eager to the consideration of the members. He believed he had seen a case of inflammation of the appendix that had not been attended with perforation, and he did not think that similar ones were very infrequent. "The late Dr. Jackson of Boston has described an affection, obscure to him, as he said, which had all the symptoms of inflammation of the appendix, characterized by localized peritonitis and pain. I know it is customary to attribute the local disease to any little matter that may be found in the appendix, but it seems to me often without much grounds."

THE FATAL ATTACK OF PERFORATION OF APPENDIX GENERALLY PRECEDED BY PREVIOUS INFLAMMATION.

Dr. Jacobi was of the opinion, from what he had seen, that most if not all of those cases of inflammation of the appendix, when first discovered, were not of recent origin, but that one or more antedated the fatal attack. These previous attacks were liable, by adhesions and the like, to distend the process, and render the escape into its cavity of irritating substances possible. If this were not the case, perforation would of necessity be exceedingly common.

Dr. Thomson referred to a case in point that followed an attack of pelvic cellulitis five years before.

Dr. Eager remarked that he had been called to see a case, on the previous Monday, of a gentleman who had all the symptoms of localized inflammation in the right iliac region, and which to his mind were clearly those of peri-typhilitis. He had also met with two others similar to those referred to by Dr. Flint, one recovering after five, and the other after seven weeks' confinement.

Dr. John C. Peters recollected the case of a lad fifteen or sixteen years of age, who had had repeated attacks of inflammation of the appendix, in the last of which rupture occurred as the result of getting out of bed.

CALCAREOUS DEGENERATION OF OVARY.

Dr. Sands exhibited a specimen of tumor of the ovary, on behalf of Dr. W. J. Almon, of Halifax, with the following note of description from that gentleman:

"I send a specimen of bony degeneration of the ovary, which, if you think of sufficient interest, you may exhibit to the Pathological Society. The brief history of the case is this: The patient was an unmarried woman of about fifty-eight years, and had for the last thirty years suffered more or less from spinal irritation, and for the last six years had complained of a constant numbness in the muscles of the left thigh. About three years ago, she called my attention to a tumor in the left iliac region, which could only be perceived at times. It was about three inches long by one broad, and lobulated. She complained at this time, and to the time of her death, of great pain in walking, nausea, and a feeling of distension in the abdominal region. About forty-eight hours before her death, as she had just left the night-chair, her sister (who, a few minutes previously, had given her an injection) heard a loud snap, and asked what that was? She replied, 'Did you hear it too? I thought a pistol had gone off within me.' I was sent for about an hour after, and found her suffering violent pain in the abdomen, increased on pressure, cold hands and feet, with a small and feeble pulse. Symptoms indicating rupture of the intestine.

"On making a post-mortem examination, assisted by Dr. Tupper, we found a rupture of the small intestine near the tumor which had been perceived during life, and which was an enlarged mesenteric gland attached to the intestine. All the other mesenteric glands were enlarged and indurated. On passing my hand into the true pelvis, I found it filled with a hard, ponderous tumor, which was the ovary, that had undergone a bony degeneration. As I have not met with a case like this, either in my practice or reading, let me know what you think of it."

Dr. Sands remarked that the tumor was a very solid mass, lobulated externally, and had the consistency of bone. When he saw it first he thought the doctor's opinion was correct—that it might be bone. Dr. Sabine had examined it, however, microscopically, and failed to find anything but a calcareous degeneration. He accordingly supposed it to be an ovarian cyst which had undergone such change, this being not a very uncommon occurrence. He had found no mention of any case of osseous degeneration of such growths, although Virchow speaks of cartilaginous degenerations. These latter were exceedingly rare.

CALCULUS OF CYSTINE, ETC.

Dr. Post exhibited the skull of a Flathead Indian of the Quinault tribe, also one of a dissecting-room subject, which was worm-eaten over its superior surface, and perforated at several points at its base. This condition was presumed to be the result of syphilis. He also exhibited a beautiful calculus, composed entirely of cystine. It was two-and-a-quarter inches in length, two-and-an-eighth inches in breadth, and two inches in thickness.

CALCULUS OF SUBLINGUAL DUCT, ETC.

Dr. Sayre exhibited a very minute pointed calculus, which, by obstructing the sublingual duct of a young lady, had caused her to be in imminent danger of choking. It was removed without difficulty, and with immediate relief to the symptoms. He thought it possible that the hair of a tooth-brush had been engaged at some time in the duct and formed the nucleus of a calcareous deposit.

Dr. Watts thought that it might be a small fish-bone.

On motion it was referred to the Committee on Microscopy.

MORBUS COXARIUS.

Dr. Sayre presented the neck and trochanter major of the femur, removed by operation from a patient twenty-five years of age, who had been first attacked with symptoms of coxitis in 1862, while engaged in digging a well. The disease took the usual course until the third stage, during which period he was admitted to the Bellevue Hospital. The acetabulum was found eburnated, and between it and the caput femoris was a pulpy material, which accounted for an absence of crepitus during life.

SINUOUS ABSCESS OF METATARSAL—NECROSIS OF SKULL CAUSING CHOREA, ETC.

Dr. Pooley presented a fine specimen of sinuous abscess of the metatarsal bone of the great toe, removed by operation from a girl eleven years old. The periosteum was of course left.

Another specimen was a portion of necrosed skull, the result of injury, likewise removed before death from a girl eight or nine years of age, who since the accident had constant attacks of chorea. Finally, a baggy swelling of the part occurred and the bone was removed, when the nervous symptoms previously referred to entirely ceased.

A third specimen was what appeared to be a fibrous tumor, fringed with smaller growths, removed by operation from the outer end of clavicle. The point of interest was the probability of this growth recurring if any of the small attachments had been left behind, thus giving rise to the subsequent suspicion that it was recurrent.

On motion, the growth was referred to the Committee on Microscopy.

STATED MEETING, FEB. 9, 1870.

Dr. Joseph C. Hutchison, President, in the Chair.

SUDDEN DEATH WITH INSIGNIFICANT LESIONS.

Dr. Finnell exhibited two specimens. The first consisted of the heart, kidneys, portion of the aorta and bladder removed from a colored steamboat-hand, thirty-five years of age, who was found dead in his berth. He retired in his usual health, and during the day previous worked with his usual industry and spirits. The autopsy was made twelve hours after death, and revealed an extensive atheromatous condition of the aorta with thickness of its walls, and insufficiency of the aortic and ventral valves. Both kidneys were the seats of extensive degeneration; the right weighed less than one ounce and a half, the left five ounces. The former organ was most extensively congested, blood flowing freely from it on section, and more than one-half of the cortical portion had entirely disappeared. The right kidney was also much disorganized. The bladder was the seat of intense hypertrophy, and would hardly hold two ounces of urine. Its walls were fully half an inch in thickness. The verdict was that death was caused by heart disease, no other reasonable cause for death having been found. There was well-marked cirrhosis of liver. The urethra had not been examined.

Dr. Shrady asked if the brain had been examined.

Dr. F. replied in the negative.

A second specimen was the head, sternum, and portion of the attached ribs taken from an old man who had been murdered in Hudson street. His assailant struck him with a shoemaker's knife, and with the first blow severed the tendons of his forearm, and with a second stabbed him in the neck at the root of the sternum, when the weapon glided over the bony surface downwards, as far as the fourth rib, finally entering the left ventricle. Death was almost instantaneous, the pericardium being filled with blood.

Dr. Krackowizer was of the opinion that the small kidney presented by Dr. Finnell was congenital.

TWO CUNEIFORM BONES.

Dr. Mason exhibited the skeleton foot of a dissecting-room subject, with two internal cuneform bones. He had only been able to find three similar cases on record.

MENINGEAL APOPLEXY THE CAUSE OF DEATH IN THE NEWBORN.

Dr. Lewis Smith exhibited a brain showing meningeal apoplexy. It was removed from an infant twenty-eight hours old. The mother was a primipara, and the face presented. Labor lasted thirty-six hours. The delivery took place without instruments. It was not known whether ergot was administered or not. At first it appeared that the infant was still-born, but after considerable effort respiration was established to a certain extent, and continued in that state until death occurred.

At the autopsy the brain was found to be intensely congested, and over its entire surface, as well as in the ventricles, had been an extravasation of blood. As might have been expected, there was an almost complete atalectasis of the lungs, only the anterior portion of the right lung being inflatable. In this portion there were evidences of commencing emphysema. The point of interest, however, was the condition of the brain.

DR. SMITH remarked that this was the third case in which he had made a post-mortem examination under like circumstances and found the bloody effusion. In one of these three instruments had been used. He believed that very many of the deaths of infants could be explained by this trouble of the brain, when under other circumstances the little one, from the establishment of respiration, might be expected to live.

DR. LOOMIS asked if the emphysema was the result of the inspiratory or expiratory act.

DR. SMITH ascribed it to the former.

DR. LOOMIS stated that in tuberculosis of the lung the opposite was the case, being the result of imperfect emptying of the lung.

LYMPHO-SARCOMATOUS TUMORS.

DR. LOOMIS presented a tumor taken from a German thirty-six years of age, who was admitted into Bellevue Hospital about the twentieth of last December. He was free from any hereditary or acquired constitutional disease, and had always been perfectly healthy until two years and a half ago, when he first noticed a swelling a little behind the right clavicle, composed of a number of smaller tumors. These latter finally united, forming a tumescence of considerable size. About this time similar swellings appeared in the armpits and groins, and subsequently, six months before his admission, he observed another tumor about the centre of the sternum, near the median line. With the development of these growths the strength of the patient failed so rapidly, that as long ago as four months previous to his admission he was unable to walk across the room without assistance. His digestion and appetite were all this time perfect. He had no pain anywhere, neither was there any difficulty in breathing. At the time of his admission he was very much emaciated, was extremely pale and anæmic, and he was so prostrated as to be unable to get in and out of bed unaided. His appetite was still good, rather unnaturally so, desiring more food than he could get. The tumor in the neck was so large as to amount to a deformity, extending as high up as the base of the skull. There was a swelling on the left side of the neck, about one-third the size of the former. The tumor of the sternum was the size of an egg, and was not movable. The axillary masses were only slightly movable, averaged in size a pigeon's egg, and were more or less united. Firm pressure upon the abdomen discovered tumors along the spinal column. There was almost complete aphonia. Physical examination of the chest revealed the thoracic organs healthy. His pulse was feeble, but not much accelerated; no night sweats; no cough. From his entrance into hospital he steadily emaciated. On the twentieth of January he was seized with great difficulty of breathing, necessitating artificial respiration, and from that time until his death he suffered more or less from dyspnœa. He finally died, apparently from exhaustion, on the twenty-second of last month.

Autopsy.—Brain and meninges normal, save a slight sub-arachnoid effusion. The neck on both sides was very much enlarged. On removing the integument the tumor of right side was found to have extended from the base of the brain along the neck to clavicle, and underneath it. The mass was lobulated and multiple, the smaller tumors varying in size from a pea to a hen's egg. The mucous membrane of the larynx, especially the upper portion, was thickened, and presented points of ulceration distributed over the epiglottis and vocal cords. The right pleural cavity was a third filled with serum, in which were floating flocculi of recent lymph. This probably explained the dyspnœa. Scattered throughout the lung substance were little nodules the size of a pin's head. These corresponded in their position to the smaller bronchi, while some appeared to be developed in the walls of the larger tubes, giving rise to dilatation. The bronchial glands were somewhat enlarged.

The stomach and liver were normal. The spleen was much enlarged, and was six inches in its long and four inches in its short diameter. Through its substance were scattered nodules of whitish color, varying in size from a pea to a pigeon's egg. Throughout the intestines were spots of ulceration corresponding to the follicles, and most marked in the large intestine. This accounted for more or less diarrhœa during life. The mesenteric glands were enlarged, and a chain of enlarged lumbar glands extended from the diaphragm to the bifurcation of the abdominal aorta. On the anterior portion of the mediastinum was a tumor opposite the lower border of the sixth rib (four inches by two inches). This corresponded to another growth on the outer portion of sternum already referred to. These had no connection with each other. The several growths examined microscopically were found to correspond with what Virchow has styled lympho-sarcoma.

The blood of the patient was examined during life, but no abnormal increase of the white corpuscles was made out.

DEATH FROM TYPHOID FEVER ON FIFTIETH DAY—HEMORRHAGE, TRANSFUSION, ETC.

DR. JACOBI presented portions of intestine taken from a lady thirty years of age, who had died on the fiftieth day after having been seized with typhoid fever. She was taken some time in December with the usual chill, very soon after which intense diarrhœa set in, which, after continuing for two or three days, was to a certain extent controlled by small doses of alum and tincture of opium. She progressed very well until the ninth day, when she was suddenly seized with hemorrhage from the bowels, which was so severe that it threw her into collapse in one hour. It was only by the application of large quantities of ice (30 pounds) to the abdomen that the flow of blood could be arrested. This was accomplished in the course of half an hour, the patient being in the meantime pulseless and apparently dying. After waiting a time and expecting her to die every minute, transfusion was resorted to, four and a half ounces of defibrinated blood being injected. The change in her condition was exceedingly satisfactory, and the pulse decreased in frequency to one hundred and twenty, and stayed there. After this nothing untoward occurred until the seventh week, when the pulse would range from 140–150, and the temperature would go up to 104½°. The fæcal evacuations appeared tolerably normal and were irregular as to frequency, sometimes two or three in a day, and at other times but one in twenty-four hours. She would complain of pain and uneasiness over her bowels, a symptom which had been more or less constant ever since the commencement of the fifth week. Her appetite and digestion were good. She took large quantities of brandy, beef-tea, and milk, and she seemed as if she ought to get well, but continued notwithstanding to lose ground daily, and finally sank on the fiftieth day.

During the last week or two of the life of the patient, Dr. J. thought of repeating transfusion, but he became satisfied, from the quantities of food taken, the apparent good digestion, and the persistently increasing weakness, that extensive ulceration of the intestines and disease of the lymphatic glands existed, and gave up the idea accordingly.

On making the post-mortem examination, as usual the largest ulcers appeared in the small intestine in the neighborhood of the valve. These lesions were in all stages of development, from the commencing redness and deposit to the final cicatrization, giving evidence in their course of a constant renewal of the diseased action in the gut. A large portion of the colon was in the same condition—the solitary follicles were swollen to an immense size, and the whole surface of the mucous membrane was much congested. These swellings were found, on section, to contain the characteristic grayish-white matter. These intestinal lesions as a whole explained the reason why the pulse would never go down nor the temperature decrease.

The condition of the colon was also of interest in connection with the protracted character of the case. The mesenteric glands were much redder than they should have been, as they were long past the time when they ought to have been congested and enlarged. The spleen had been very large during life, and, although somewhat decreased at death, was still five and a half inches in length.

In answer to a question from Dr. C. C. Lee he stated that for transfusion in this case he used only a plain glass syringe and trocar. The vein was secured, incised, the trocar introduced, and a little blood allowed to ooze through the canule. The syringe was then applied, being cocked upward to prevent the admission of air, and the blood slowly injected. The blood was procured from the husband of the patient, was defibrinated by being whipped as it flowed, filtered through a handkerchief, and afterwards warmed. In consequence of the blood being a little below the normal temperature, the patient suffered after the transfusion from a severe and protracted chill.

(To be continued.)

Medical Items and News.

A MONTHLY Medical Journal, called the *Baltimore Medical Journal*, has been started in Baltimore, Md., E. Lloyd Howard, M.D., and T. S. Latimer, M.D.; are the Editors and Publishers. The January number opens with an interesting paper on the "Pathology and Treatment of Hæmorrhoids," by Prof. N. R. Smith; the remaining pages are devoted to "Selected Articles" of practical interest. As this Journal will not be the organ of any clique, it should have the confidence and support of the profession.

COMPOUND DISLOCATION OF ASTRAGALUS.—Dr. Geo. T. Campbell, of Skaneateles, N. Y., reports an interesting case of compound dislocation of left astragalus. The patient was twenty-five years old, and received the injury by being thrown from a horse.

"There was a ragged wound, extending nearly half around the ankle; a double luxation of the astragalus; the posterior tibial artery torn across, with about two inches of the proximal end hanging from the wound." The surgeon removed the fragments of bone instead of amputating, and the result proved the wisdom of his choice. The case was dressed afterward as an ordinary compound fracture, and one year after the accident the patient walks with very little perceptible limp.

DEATH OF A NOTED LITHOTOMIST.—Prof. Benjamin Winslow Dudley, widely known in the West and the South as a lithotomist, and as a successful teacher of surgery, died in Lexington, Ky., on Thursday, January 20th, 1870, aged 80 years.

DEATHS FROM PULMONARY TUBERCULOSIS.—Ninety persons died of consumption in Lynn, Mass., in 1869.

THE ARMY MEDICAL MUSEUM IN WASHINGTON, D. C.—Twenty-five thousand three hundred and seventy-three visitors registered their names at this Museum during the year 1869. There are 12,220 catalogued specimens, an increase of 2,176 specimens during the year.

THE MEDICAL BOARD OF THE EASTERN DISPENSARY has been reorganized, and the following officers have been elected: Dr. R. J. O'Sullivan, President; Dr. Verranus Morse, Vice-President; and Jonas P. Loines, House Physician of the Dispensary, Secretary. The meetings are to be held on the second day of every month at 11 A.M. Several interesting papers have been promised.

THE PRODUCTION OF SALT IN NEW YORK STATE.—In 1869, the Onondaga salines produced 6,804,295 bushels of boiled salt, and 1,857,942 bushels of sun-made salt—a total of 8,662,237 bushels, of 56 pounds each. The total revenues were $86,757.60. The net revenue to the State was $41,211.03. There have been manufactured at the Onondaga salt springs, since 1797, 200,781,490 bushels of salt. Since 1846, when the duty was reduced to one cent a bushel, the State treasury has received from the salt springs a net revenue of $517,587.43.

THE FIRST HUMAN DISSECTOR.—The first to make human dissections was Vesalius, of Spain. He was sentenced to the Holy Land, and died at sea on his return homeward.

THE MEDICAL MUSEUM OF WILLIAM HUNTER.—This distinguished surgeon, who was the teacher of Matthew Baillie in morbid anatomy, and of his brother, John Hunter, in surgery, left a museum of his own collecting, which at his death was valued at £20,000.

The greater part of it is now in the possession of the University of Glasgow, to which he bequeathed it. —*Boston Med. & Surg. Journal.*

HUMAN ANATOMY A SCIENCE.—To the illustrious Velpeau we owe the first attempts at making human anatomy a science.

DISTINGUISHED ENGLISH AND AMERICAN SURGEONS.—Cooper and Cline of London were graceful and accomplished operators; while Abernethy and Hunter, less showy in their operations, excelled in their pathology and knowledge of disease. Abernethy showed the great importance of the principles of surgery, while Cooper and Cline showed how much elegance there was in a nice operation.

There was the same difference between Mott and Stevens of New York. The former excelled in the nicety of his operations, while the latter was superior in pathology and practical knowledge. It was a common remark thirty years ago, that a patient should consult Stevens in regard to the propriety of an operation, and if he advised it, have Dr. Mott perform it.

WASTE OF NIGHT SOIL.—Mr. Waring (*Jour. of Applied Chemistry*) estimates the direct annual loss to the country by the waste of night soil at $50,000,000. The indirect loss in the falling off of the producing power of the land is left out of view, and the other, far more serious, loss of life occasioned by diseases brought on by open privies, cannot be computed in money, accord-

ing to Prof. Charles A. Joy, but must especially attract the attention of every student of social science in the country.

Collodion for Surgical Purposes.—Collodion was first used in surgical cases by J. P. Maynard, a medical student of Boston, in 1847.

The Discovery of Aniline.—This dye is not a very recent discovery, as many imagine. It was first found in 1826, among the products of the dry distillation of indigo. It was originally called *crystalline*. When first obtained from coal tar, in 1837, it was called *kinlo.—Jour. Applied Chemistry.*

A Case of Rupture of the Uterus—Recovery.—Dr. Strong (*Buffalo Med. and Surg. Journal*) recently reported a case of rupture of the uterus to the members of the *Buffalo Medical Association*, resulting in recovery, which occurred under his observation in Washington, D. C. The patient, a primipara, did not have a very severe labor; but before the head reached the superior strait, the pain suddenly ceased, the head receded, and, upon examination, it was found that the child had escaped through a rent in the uterus into the peritoneal sac. The feet were seized and the body delivered, but it was necessary to apply the forceps free to the head. The patient recovered, and a careful examination made five or six weeks afterward revealed no trace of the injury.

The case was reported on account of the extreme rarity of recovery after so grave an accident. The records of about 44,000 cases of labor show sixty-five cases of rupture of the uterus, and only six or seven recoveries.

On the Use of Veratrum Viride.—George A. Ward, M.D., New Haven, Ct. (*The Jour. Med. Medica*), now confines himself to the use of a saturated tincture of the root, which is found uniformly reliable. The subjoined formula is a favorite one with him:

℞ Sat. tr. verat. viride... ʒj;
Potassæ chlorat..... ʒij;
Aquæ ..... ℥ij. M.

If to a child, he adds a little syrup. The chlorate of soda is sometimes substituted for potassa, as the taste is more agreeable. Dose: One teaspoonful every two hours for three doses; once in three hours for two doses; once in four hours for two or three doses, according to the effect produced. Given in this way, no deleterious effects or emesis will be produced.

An Instrument-Handle from a Thigh-Bone.—A materialistic surgeon of Paris recently exhibited to one of his friends an instrument, the handle of which was carved in bone. "Do you know," he asked, "of what this handle is made?" "Of ivory, I suppose." "No," said the doctor, while tears almost choked his voice, "it is the thigh-bone of my poor aunt."—*Med. and Surg. Reporter.*

English Customs in the Time of William the Conqueror.—The hours kept by our ancestors of Great Britain were primitive enough, as is attested by the following Norman proverb:—

"To rise at five, to dine at nine,
To sup at five, to bed at nine,
Makes a man live to ninety-nine."

Codeine.—This alkaloid, from *kode*, poppy-head, was discovered in opium by Robiquet, in 1833. Its composition answers to the formula C^{36} H^{24} NO^{6}.

Retention of Fœtus in the Uterus for Eighteen Months.—M. S. McMahon, M.D., of Suisun City (*Pacific Med. and Surg. Journal*), asserts that in a recent case of pregnancy the fœtus remained in utero for nearly a year and a half. The placenta contained a fœtus 4½ inches in length, having an appearance of old sponge or mummy.

Removal of a Horse-Shoe Pessary from the Female Bladder.—Prof. W. H. Byford, of Chicago (*Chicago Med. Examiner*), was called to a young married lady, who was suffering severely from pain in the region of the bladder, which was produced by the presence of a horse-shoe pessary, inserted by the family physician into the bladder by mistake, instead of the vagina. The patient was placed under the influence of chloroform, and the time occupied by the efforts at extraction was about ten minutes. It measured 1¼ inches from one side to the other, and was 2½ inches long. The diameter of the rod was three-eighths of an inch. The extracted instrument was incrusted with the urinary deposits nearly all over. It had been in the bladder about three months.

The Origin of Syphilis in Europe.—M. Auzias-Turenne has lately addressed the Academy of Medicine in favor of the Transatlantic origin of syphilis. The talented syphilographer bases his views on three orders of proofs:—1st (historical), the writings of Oviedo, Thevet, Roderic Dias, showing the importation of syphilis, and its progress through Spain, Italy, and France. 2d (horological), to wit, the generalization and the benignity of the disease when first observed in the West Indies, its progress through Europe, insidious at first, then speedy and terrible, and now generally waning away; 3d (philological), to wit, all the appellations of the disease and its symptoms, which have been found in the Caribbean dictionary, and in the vocabulary of the Indians, with the exception of the names of those diseases which we have exported to America. Having thus advocated this theory of the importation of syphilis from the Far West, M. Auzias-Turenne winds up with the following practical conclusion: Syphilis has come from America; we must renounce as a general method its traditional treatment by mercury; the ill must become its own remedy and its own preservative.—*Lancet.*

The Fate of Medical Students.—In a brief and brilliant article that forms a part of the fifth volume of the St. Bartholomew's Hospital Reports, Mr. Paget has, with much labor and considerable perspicuity, given the reader an analysis of the careers of 1,000 medical students, all of whom have been known to and observed by him or by his colleagues, Mr. Callender and Mr. Thomas Smith, during a period of fifteen years. He has placed them in eight divisions, and tells us that 23 have achieved distinguished success, 66 considerable success, 507 fair success, and 124 very limited success; that 56 failed entirely, 96 left the profession, 87 died within twelve years of commencing practice, and 41 died during pupilage.

Medical Schools in Italy.—The chief Italian medical schools are situated at Bologna, Florence, Pisa, and Turin. The University of Bologna ranks among the most ancient in the world. Founded as early as 1119, it rapidly gathered students from all parts of the globe to the number, in 1216, of ten thousand. It was at Bologna that anatomy was first taught, in the fourteenth century; and it was there, towards the close of the fifteenth, that Joseph Galvani made the discovery which has transmitted his name to all time. At present the number of students in all departments is only about four hundred.

Florence possesses the finest collection of anatomical models in wax in the world.

Pisa, though sadly degenerated, still has the finest school in Tuscany.—*Correspondent Cinn. Lancet and Observer.*

Prostitution and Venereal Diseases in Paris.—The following statistics on prostitution and venereal diseases are extracted from a work on "Prostitution in Paris, and account of propagation of venereal diseases among women," by Dr. Leon Le Fort, surgeon of Cochin Hospital.

In 17 months he treated 1,824 cases in the hospital, and 12,889 outside. The patients he divides in the subjoined classes: 1st. Wives and concubines. 2d. Unpaid mistresses. 3d. Women met at the public balls. 4th. Women met on the street. 5th. Inmates of houses of prostitution.

Dr. Le Fort gives the particulars of 4,987 cases. The *first class* is put down for 3 cases of soft chancre, 9 cases of the Hunterian variety, and 63 cases of blennorrhagia.

On inquiring whether their calling or occupation had any influence, it was found that distance from home was a cause, and that bakers figured the highest on the list; these working-women only go about at night, and are almost always at a distance from their residences.

The *second class* is put down for 576 cases of urethritis, 82 of soft chancre, 171 hard chancre—a total of 829 cases. In 616 cases, the occupation of the women was known: Domestics figured oftenest (109); seamstresses (79); washerwomen (64); 44 cases were married women, of which twenty-five had urethritis, five soft chancre, and fourteen hard.

Women met at public balls should be regarded as clandestine prostitutes; 541 cases are classed according to location and where the diseases were contracted.

1,761 cases are noted occurring among women found on the public streets. 780 cases in houses of prostitution are recorded, and those which furnish the greatest number are situated near the military school, Hotel de Ville, Palais Royal.

These statistics show that clandestine prostitution is most dangerous.

From January 1st, 1861, to the 31st of December, 1866, a period of six years, of 13,818 women arrested for clandestine prostitution there were 3,725 cases of disease.

Of 2,303 unregistered women arrested annually, one out of three was found infected; while at the same time out of 3.850 registered women, only one out of seven was diseased.

The number of clandestine prostitutes in Paris is estimated at 20,000. Of the 13,818 arrested, 1,549 only wished to be registered. During the past six years 7,277 have been reclaimed by their families.

Cutaneous Horn.—Mr. Houghton, of Dudley, in Worcestershire, recently presented to the dermatological section of the museum of the Royal College of Surgeons, a remarkable specimen of cutaneous horn, which grew from the skin of the under surface of the last phalanx of the great toe. It had been two years in formation, the patient being a woman aged 66. It measures one inch in length; its breadth is seven lines, or rather more than half an inch; and thickness, a quarter of an inch.—*Jour. of Cutaneous Medicine.*

Aniline Dermatitis.—Cases of *aniline dermatitis* are often met with in England, by Dr. Erasmus Wilson and other dermatologists, caused by wearing purple or red socks or stockings, dyed with the aniline pigments. It seems to be a very remarkable and troublesome affection. As soon as recovery appears to be complete it breaks out again.

Dr. Wilson believes that the nerves themselves are poisoned by the dye, and that the morbid phenomena produced by the poison are repeated periodically.—*Jour. of Cutaneous Medicine.*

Infant Mortality.—In London, in every one thousand deaths, 160 occur among infants under one year of age. One-fourth to one-half of the whole mortality in New York city is to be found among children under one year of age. In San Francisco, out of every thousand deaths, 300 infants of one year of age, or thereabouts are recorded.

The Society of the Alumni of the Medical Department of the University of the City of New York met in the College, East 26th street, on Tuesday evening, Feb. 22d, Dr. S. S. Purple, the President, in the Chair, assisted by Drs. H. S. Hewit and F. D. Lente, Vice-Presidents. The reports of the Secretary, Dr. H. M. Brush, and of the Treasurer, Dr. C. I. Pardee, were read. The following officers were elected for the ensuing year:—*For President*, Samuel S. Purple, M.D. *For Vice-Presidents*, James B. McGaw, M.D.; Daniel Ayers, M.D.; Solomon S. Satchwell, M.D.; Henry S. Hewit, M.D.; Frederick D. Lente, M.D.; James R. Leaming, M.D. *For Secretary*, Charles I. Pardee, M.D. *For Treasurer*, William B. Lewis, M.D. *For Orator*, F. D. Lente, M.D.; *Alternate*, D. B. St. John Roosa, M.D. *For Committee on Nominations and Arrangements*, D. B. St. John Roosa, M.D.; F. V. White, M.D.; A. W. Stein, M.D.; J. H. Anderson, M.D.; S. I. Clark, M.D. The Society then adjourned to the Lecture Room, where, after prayer by Rev. Isaac Ferris, D.D., LL.D., Chancellor of the University, Dr. James R. Leaming delivered an interesting address on the Progress of Medicine. The address was ordered to be printed, on motion of Professor Post.

Horseflesh.—The Society for the Propagation of Horseflesh as an Article of Food says that the consumption of this aliment is increasing throughout Europe. In three months there were sold in Paris 273,000 pounds of it. There is also a great consumption of it in the provinces.

Increase of Carbuncle in Scotland.—The Registrar-General of Scotland states that deaths from carbuncle are on the increase, and that the mortality from it has been getting larger and larger ever since the lung disease of cattle was imported into Scotland.

New Publications.

Books Received.

Modern Therapeutics; a Compendium of Recent Formulæ, etc., etc. By G. H. Napheys, A.M., M.D. 1870. Philadelphia: S. W. Butler.

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The Physiology of Man: Designed to Represent the Existing State of Physiological Science as applied to the Functions of the Human Body. By Austin Flint, Jr., M.D., Prof. of Physiology and Microscopy in the Bellevue Hospital Medical College, etc. Vol. III.—Secretion, Excretion, Ductless Glands, Nutrition, Animal Heat, Movements, Voice, and Speech. New York: D. Appleton & Co. 1870.

Original Lectures.

ON RELAPSING FEVER.

By A. CLARK, M.D.,

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LECTURE I., PART II., FEB. 7, 1870.

As the study of cases is the only possible means of ascertaining the real characters of disease, I urge you to examine carefully those that are still to be recited.

CASE II.—DISTINCT CHILLS WITH ATTACK AND RELAPSE, LASTING TEN AND FIFTEEN MINUTES; SEVERE MUSCULAR PAINS; FIRST STAGE, FOUR DAYS; SECOND STAGE, TEN DAYS AND A HALF; RELAPSE ON FOURTEENTH DAY; THIRD STAGE, FOUR DAYS.

Hiram S., æt. 24, single, merchant, South Carolina, entered December 28, 1869. During the night of 25th December was taken with a chill, lasting ten minutes, followed by fever, severe headache, and thirst; no remission up to time of entering hospital. On admission temp. 102½°; pulse 120; skin hot and dry; tongue dry and coated. Ordered liq. ammon. acetat.

Dec. 29th. High fever; pain in right iliac fossa.

Dec. 30th. Last night had a profuse sweat, and this morning every symptom of fever has disappeared. Pulse is 80; temp. 97½°. Complains of pain in the head, back, and calves of legs.

Patient has a gonorrhœa, and now treatment commenced for it. Pulse and temperature normal from Jan. 1st to Jan. 8th.

Jan. 9th. Early this morning patient had a chill, lasting fifteen minutes, followed by fever, headache, etc.

Jan. 11th. Pulse 130; temp. 102½°. Commenced vomiting. Great pain in back and head.

Jan. 12th. Still high fever. Temp. 104°; pulse 132.

Jan. 13th. Skin moist. Temp. seems normal to hand. Patient does not move a limb, owing to severe muscular pains.

Discharged Jan. 24th, still debilitated. Pulse and temp. normal during last week.

CASE III.—TEMPERATURE 108½°* ON THIRD DAY OF RELAPSE; FIRST STAGE, SIX DAYS; SECOND STAGE, EIGHT DAYS; RELAPSE ON FOURTEENTH DAY; THIRD STAGE, FOUR DAYS.

James C., æt. 15, single, New York, admitted December 26, 1869. Patient has been much exposed to the weather for four weeks, and has been sleeping on a damp floor during this time. States that he fell sick four days ago, with headache, pains in his limbs, loss of appetite, and fever. On admission face is flushed, eyes suffused, tongue furred. Pulse 132, and temp. 105°. Bowels have not moved since he became sick. No cardiac or pulmonary disorder. Ordered a cathartic and one drop tr. aconiti rad. hourly. Evening, pulse 132; temp. 105°.

Dec. 27th. Pulse 132; temp. 104°. Same in evening.

Dec. 28th. Defervescence, with sweating. Pulse 100; temp. 96°. Evening, pulse 92; temp. 96°.

Dec. 29th. Pulse 88; temp. 99°. Evening, pulse 88; temp. 98°.

Dec. 30th. Eats well, and wishes to get up.

Jan. 4th. Relapse. Chilly feelings; severe headache, etc.; went to bed again; bowels open.

Jan. 6th, P.M. Pulse 136; temp. 108½°. Face flushed; urine 1016; alkaline. No albumen.

Jan. 7th. Pulse 148; temp. 104½°. Skin dry; pain in legs and feet; gurgling and tenderness in right iliac fossa; no eruption. Evening, pulse 144; temp. 105½°. Tr. aconit. rad., gtts. iij., repeated in two hours.

Jan. 8th. Pulse 96; temp. 96°. Sweating profusely. Evening, temp. 98°.

Jan. 9th. Pulse 84; temp. 99°. Feels well.

Jan. 19th. Pulse and temp. normal since last report.

You may learn the habits of the disease somewhat more fully from the following abridged or outline reports:—

CASE IV.—Margaret ——, widow, aged 24, born in England, occupation housekeeper, attacked November 3d.

Nov. 4th. Vomiting; nose-bleed, and high fever.

Nov. 6th. Admitted into hospital.

Nov. 6th, 7th, and *8th.* Fever continued; temperature steady, at 104°.

Nov. 9th (Sixth day). Sweating profusely. Temp. 97½°.

The remission lasted seven days. On the evening of Nov. 15th, the temperature was still 97½°.

Nov. 16th (Thirteenth day). Headache and chilly feelings, and the temperature rapidly rose to 104; on the 17th it reached 106½°.

Nov. 18th. Evening. Feels well, but temp. 105½°.

Nov. 19th. The usual sweat, and temp. normal. This is the beginning of convalescence.

Thus we have the first attack lasting six days, the remission seven days, and the relapse three. The highest temperature was 106½°, and here we notice among the symptoms bleeding from the nose.

CASE V.—Mary R., æt. 18, single, domestic, admitted Nov. 15th, attacked Nov. 10th with the chill and fever. On the first day there was *diarrhœa.* On the 16th (sixth day) there was epistaxis and tenderness in the right iliac fossa, and on that day the highest temperature (105°), and on the 18th epistaxis again, although the usual crisis had occurred in the night preceding.

Nov. 25th (Fifteenth day). Relapse, and temp. 107°.

Nov. 27th. Epistaxis again; temp. still 107°; and pain in the back, legs, and shoulders.

Nov. 30th. Sweating and rapid subsidence of fever. Duration: the first fever between seven and eight days; of the intermission, a little over seven days; and of the relapse, five days. There is recurring epistaxis, diarrhœa at the onset, and on the sixth day tenderness in iliac fossa. Highest temperature 107°. The patient stated that other members of the family with whom she lived were sick with the same disease. She came from a crowded tenement house.

CASE VI.—Mary W., æt. 35, widow, born in England, was attacked Nov. 20th, and admitted on the same day. The fever subsided after three days. At that time the menses, which had been suppressed for six months, appeared; and an eruption was noticed on the abdomen—purple spots, which disappeared on pressure. The relapse occurred (Nov. 31st) on the

* Niemeyer (Prac., vol. ii., p. 570, Am. ed.) quotes from Wünderlich, who made the thermometer an instrument of prognosis, the following statements relating to typhus and typhoid fevers:—"In typhus, all the patients in whom the temperature reached 105° died; and of fourteen that died, five, or more than one-third, had this high temperature. Of the patients whose temperature never rose above 105·5°, not one died." Referring to typhoid fever, he says (p. 589):—"We may look for the approach of death if the temperature remain for some time at 107°; if it suddenly rise to 107 5°, or 108°; or if it suddenly fall very low, say to 94°." This case shows that in relapsing fever the temperature may rise to 108½°; and another in this series, that it may stand for two or three days at 107° in persons who are to recover, and who do recover as rapidly and perfectly as those in whom it at no time, either in the first or third stage, exceeded 102½°.

In this series we have no instance in which the temperature fell as low as 94°; but there is one in which, after defervescence, it stood for one or two days at 95½°, without any unfavorable influence.

twelfth day, and the second critical sweat (Dec. 3d) at the end of four days. The highest temperature (105°) was reached the day before the second crisis.

CASE VII.—Mary S., æt. 32, single, born in Germany, domestic in a poor family, attacked Nov. 24th, admitted Dec. 1st. Temperature on admission 105°. On the eighth day of the fever the menses appeared. Fever subsided on the ninth day with sweat. Remission lasted eight days; relapse on the eighteenth day (Dec. 12th), then five days of fever, terminating in a sweat Dec. 17th. There is probably a mistake of two or three days in the date of the attack in this case. The patient was not intelligent. The highest temperature was reached on the third day of the relapse, 106°.

CASE VIII.—Henry G., æt. 17, born in this country, attacked Dec. 13th, admitted Dec. 17th. The usual symptoms, including chill and pain in the limbs; sweat and defervescence after five days (Dec. 18th); relapse on the fifteenth day (Dec. 28th) after *ten days* of remission; on the second day of the relapse epistaxis and diarrhœa; two days later the highest temperature, 102°, in the evening; the next morning fever had subsided, diarrhœa had ceased, patient sweating freely, temperature 98°.

CASE IX.—Mary W., æt. 35, single, domestic, attacked Dec. 14th, admitted Dec. 20th. This fever was attended with intense headache. The temperature was 105½° on the day of admission. The next morning it had fallen to 97° during a profuse sweat. Now there were *sudamina*, and there was tenderness in the right iliac fossa; remission lasted eight days and relapse occurred on the fifteenth day (Dec. 29th); the second fever lasted seven days, subsiding with the usual crisis Dec. 5th. Highest temperature 106°, on the first day of the relapse.

CASE X.—BILIOUS VOMITING; JAUNDICE IN RELAPSE; FIRST FEVER, FIVE DAYS; INTERMISSION, FIVE DAYS; RELAPSE ON ELEVENTH DAY, LASTING THREE DAYS; HIGHEST TEMPERATURE 103½° ON FIRST DAY OF RELAPSE.

Mary F., æt. 30, born in Ireland, domestic, entered Dec. 27th. Attacked on 25th with chilly sensations, pain in the back and lower extremities, and headache. At night there was high fever and bilious vomiting.

On December 27th, 28th, and 29th, the temperature was 103°. Vomited occasionally.

Dec. 30th. Temp. 97°; appetite returns, and skin covered with perspiration.

Jan. 4th. Well and up to-day, when she had a chill; headache; tongue now dry and brown, and temp. 103½°.

Jan 6th. Has become jaundiced.

Jan. 7th. Morning, temp. 103. Night, temp. 98°. Sweating. Is still slightly jaundiced.

Jan. 15th. Pulse and temperature normal all last week.

CASE XI.—ABORTION; FIRST FEVER, THREE DAYS; INTERMISSION, EIGHT DAYS; RELAPSE ON ELEVENTH DAY, LASTING THREE DAYS AND A HALF; HIGHEST TEMPERATURE, 105°, ON THIRD DAY OF RELAPSE.

Mary F., æt. 15, single, domestic, entered in November to await confinement. Dec. 29th, seized with chills, muscular pains, nausea, vomiting and debility. High fever on the 29th and 30th, and on Dec. 31st she miscarried. On Jan. 1st, temp. 104°, but commenced sweating, and in the evening the fever disappeared.

Jan. 9th. Another chill; vomiting; high fever.

Jan. 11th. Pulse was 130, and temp. 105°.

Jan. 12th. Evening, sweating again.

Jan. 13th. Temp. 97½°; debility; muscular rheumatism.

CASE XII.—FIRST STAGE, FOUR DAYS; SECOND STAGE, NINE DAYS; RELAPSE ON FIFTEENTH DAY; THIRD STAGE, THREE DAYS; HIGHEST TEMPERATURE, 106°, ON THIRD DAY OF RELAPSE.

Emily R., æt. 27, married, born in England, domestic, admitted Dec. 29th. Attacked on 26th. Pain in limbs; chill of one hour's duration, followed by fever and headache.

Dec. 31st. Highest temp. in first attack 104½°.

Jan. 1st. Perspiring; temp. 97°.

Jan. 10th. Relapse, chill, followed by fever.

Jan. 12th. Evening, highest temp. 106°.

Jan. 13th. Profuse sweat, which commenced yesterday evening. Temp. 97½°. Has rheumatic pains all over body.

Patient states others in the same house were sick in the same manner she was.

CASE XIII.—DIARRHŒA; SEVERE PAINS; FIRST STAGE, FOUR DAYS AND A HALF; SECOND STAGE, NINE AND A HALF DAYS; RELAPSE ON THE FIFTEENTH DAY; THIRD STAGE, FOUR DAYS; HIGHEST TEMPERATURE ON THIRD DAY OF RELAPSE, 106°.

Rosanna P., æt. 35, born in Ireland, widow, admitted Dec. 31st.

Dec. 28th. Chills and fever with sweating. On admission, abdominal pain, hot skin, intense headache, diarrhœa, and pain in calves of legs. Critical sweat on night of Jan. 2d. Relapse Jan. 12th, chills, aches, and pains, muscular, articular, and cephalic; nausea and vomiting; temp. 104½°.

Jan. 15th. Diarrhœa; highest temp. 105°; sweating.

Jan. 16th. Temp. 96°, but pains continue.

CASE XIV.—FALSE CRISIS ON THIRD DAY; FIRST STAGE (INTERRUPTION INCLUDED), FIVE DAYS; PULSE FELL AFTER TRUE CRISIS TO 54, TEMPERATURE TO 95½°; HIGHEST TEMPERATURE 105°, ON THIRD DAY; DISEASE TAKEN IN THE HOSPITAL, PROBABLY; NO RELAPSE AFTER FIFTH DAY.

Ann C., æt. 37, Ireland, domestic, admitted Jan. 3d. Patient complained only of weakness and dull pains in calves of legs on admission. Temperature and pulse were normal, and she was supposed to be a malingerer.

Jan. 12th. Had a sharp chill, followed by high fever and vomiting of bilious matter. Pulse 120; temperature 103°.

Jan. 14th. Pulse 112; temperature 104½°; sweating.

Jan. 15th. Pulse 86; temperature 97°. In evening, fever again; pulse 108; temperature 105°; vomiting a great deal; headache; rheumatic pains.

Jan. 17th. Profuse perspiration; pulse 90; temperature 95½°.

Jan. 18th. Pulse 80; temperature 95½°.

Jan. 19th. Pulse 54; temperature 97°.

Jan. 24th. Pulse and temperature have been normal since last entry. Bowels now regular. Yesterday sat up all day; still complains of pain in left shoulder.

No eruption, epistaxis, or jaundice in this case.

Jan. 29th. Up to date pulse and temperature normal. Still has pains in left arm and shoulder; appearance of limb normal; patient improved rapidly, and was discharged Feb. 17th.

It will be seen that in this case there was no relapse on or near the fourteenth day; that on the evening of the third day there was sweating, and the next morning an intermission, pulse at 86, and temperature 97°, lasting less than a day, and that the fever finally subsided with another sweat at the end of five days. The case was kept under observation for a month after the fever ceased. I have seen no notice of such behavior in the European cases.

CASE XV. — CRITICAL SWEAT VERY COPIOUS; FIRST STAGE, FIVE DAYS; INTERMISSION, FOUR DAYS; RELAPSE ON THE TENTH DAY, IF PATIENT'S STATEMENT IS TRUE; THIRD STAGE, FIVE DAYS AND A HALF; HIGHEST TEMPERATURE, 105½°, ON FIFTH DAY OF RELAPSE.

Thos. King, æt. 27, single, Ireland, laborer, admitted Jan. 8th.

Dec. 3d. Chilly feelings followed by burning fever, dry cough, thirst, and headache. These symptoms continued for five days, when he had such a perspiration as to wet bed-clothing through. After this felt well until two days before admission, when he had another chill followed by the usual symptoms of the relapse.

Jan. 11th. Reached highest temperature, 105½°.

Jan. 12th. Temperature 98°. Had sweat last night; fever gone.

In the preceding cases the relapse has fallen on the day Dr. Aitkin has appointed for it but twice. Here is one that falls under his rule exactly.

CASE XVI.—FIRST STAGE, SEVEN DAYS; SECOND STAGE, SIX DAYS; RELAPSE ON THE FOURTEENTH DAY, LASTING THREE DAYS.

Chas. Smith, æt. 37, native, boatman, admitted Jan. 13th, 1870. Patient states that on Dec. 30th he was attacked with chilly sensations, nausea, slight vomiting, headache, pains in the legs; fever followed, lasting about one week, when he had a profuse sweat, and the fever, nausea, and all signs of disease disappeared, except the muscular pains.

Yesterday, Jan. 12th, had chills and nausea again, and fever reappeared.

Jan. 13th. Pulse 136; temperature 104°.

Jan. 14th. Pulse 136; temperature 104°, both morning and evening.

Jan 15th. Perspiring freely. Pulse 100; temperature 96°. Evening, pulse 60; temperature 97½°. Skin natural. Muscular pains still continue.

I have made some little tables exhibiting some of the facts of the disease that may not be entirely uninteresting. For example, I have one here showing the temperature in a dozen cases:—

HIGHEST TEMPERATURE IN TWELVE CASES OF RELAPSING FEVER.

FIRST FEVER		RELAPSE			
Temperature.	Day of the Disease.	Temperature.	Day of the Relapse.	Temperature at Defervescence.	
104°	3d, 4th, & 5th	106½°	2d	95½	for 2 days; 3d day 97.
103	4th	103½	3d	97½	
104½	5th	106	3d	97½	
104	7th	105½	5th	97½	
105½	7th	106	1st	97½	
105	8th	106	4th	98	
104½	?	105	3d	98	
105	6th	107	1st & 3d	97	
103	2d, 3d, & 4th	103½	1st	97	
104	3d	105	3d	97½	
103	4th	103½	1st	97	
105	5th, morning & evening	108½	3d	96	

You observe the period of highest temperature is not the same in all the cases. Notice also the temperature in the relapse. Here is a fact which has not been observed abroad—that the temperature rises higher in the relapse than in the primary attack. Here is another fact which has not been noted by our European brethren,—the temperature in almost all instances falls below the natural standard in the defervescence. In one case it fell to 95½°, and remained there two days. In all, except the 10th case of the table, it fell below the standard of health.

The length of the several stages of the disease can be seen at a glance in the following table:—

	Duration of first Period.	Duration of Intermission.	Duration of Relapse.
Margaret C.	7	7	3½
Mary R.	7½	7	5
Mary W.	3	7	4
Catherine, night nurse.	4 or 5	8	?
Mary S., according to patient.	10	8	5
Mary W.	8	8	7
Rose M.	5	8	6
Rika B.	6	4 ?	4
Hiram S	6	7	4
Emily R.	6	9	5
Rosanna P.	5	9	4 or 5
Thomas K.	5	4	6

In regard to the mortality of the disease here: Up to the night of Saturday before last there had been received into the hospital 52 cases. Up to Thursday night of last week the Sanitary Superintendent had discovered 92 cases in all the city. When I gave a short account of the disease to the Academy of Medicine last Thursday evening, I expected to say that no death had occurred; but while at the meeting I received a note from Dr. Sproat saying one patient had died in the hospital. Up to that time, then, we had had but one death. In this respect the disease corresponds with the European affection, with which I stated it was identical.

It will be remarked that the chill as an initiatory symptom was not present, or rather was not recorded in two cases, and in several it was no more than a chilly sensation; in one it occurred in alternation with heat, and in another with sweats; repeatedly it was a "sharp chill," and in one it lasted an hour. It was a part of every relapse.

Vomiting of bilious matter occurred in seven; diarrhœa is noted in two; purple spots which disappeared on pressure in one (the same kind of eruption was noticed in another case not included in this series); nose-bleed in three; jaundice in relapse only in two; sudamina in one; abortion in one, the only pregnant woman who had had the disease up to Jan. 24; menstruation or sanguineous discharge from the vagina, both in the attack and the relapse, in one; and restoration of menses in another, after six months' suppression (perhaps not in this series).

Relapse did not occur in the case of one of the two physicians who took the fever in the hospital, yet his fever had the duration, the crisis, and all the distinctive characters of the first stage of relapsing fever. The same can be said of Case XIV., unless the singular intermission, commencing with sweat and ending in recurrence of fever, without chill, after sixteen hours, is to be regarded as separating the first and third stages.

Pain and tenderness in the regions of the spleen and liver are not common symptoms in this epidemic. In no instance did the patient call the physician's at-

tention to either of these organs up to the middle of January. At that time the recording clerk was requested to note the condition of these regions, and three patients were examined by way of illustrating the instructions. In each of these there was a little starting on the percussion of the hepatic region, but the liver was not enlarged perceptibly in either, and there was nothing that deserved the name of pain: but in each there was an easily recognized and nearly painless enlargement of the spleen. It is probable that in this epidemic the spleen is enlarged as frequently as in that noticed by Jenner.

In almost all fevers there is a daily remission. In miasmatic fevers, except the congestive, it occurs in the afternoon or night; in typhus and typhoid we usually notice it in the morning. But in this affection, thus far, the fever is strictly continuous till the crisis occurs, giving, generally, the same rapidity of pulse and the same temperature of the body evening and morning; or when there are variations they arise from the even progress or rapid decline of the disease, and are not repeated the next day.

To show the contagious element of this disease, our hospital contributes a few facts. Out of the nine young physicians who have been brought into close intercourse with the sick, two have taken it; among nine nurses and orderlies in the medical wards, one; of their "helpers," none; among the patients admitted on account of other diseases and treated in the same wards with the relapsing fever cases, numbering probably about two hundred, six have been attacked. In a few instances in the city, whole families have been attacked by it. In one instance seven persons, making the whole of one family, including father and mother, were received at Bellevue. Such occurrences, however, admit of a double explanation, so that the spread of the disease in the hospital furnishes the more positive evidence of communicability. But Dr. Harris finds the contagion active only within a certain limited sphere. Persons in the rooms on one side of a tenement house do not give the disease to those on the other side. Those in the cellars do not spread it to the upper stories. His idea is that the sphere of infection is small, but that within that sphere it is active.

Relative to the period of incubation, one single fact is all we have so far that bears upon it. A woman was received at the hospital whose brother came home sick with the fever and slept one night in the house, and nine days after this sister and a little child were attacked. He slept, however, with four children, and neither one of them took it, while a child who was not in the bed with him did take it. Dr. Harris, in a note to me, says he has found a case in which he can trace the period of incubation, and it appears to have been eleven days. In still another it appears to have been fifteen days. It may not be constant, but it is not likely to be below nine days, and that is about the period of incubation of typhus; and though this disease has only alliances with that, we should not be surprised to find the period of incubation the same.

In regard to the age of those attacked:—

In Europe it is said the disease attacks persons of all ages, from infancy to seventy. Among our hospital patients the oldest has been fifty-six. Some infants and children have been received, but the disease has fallen most heavily on persons between twenty and forty years of age.

The fever seems to attack males and females in about equal numbers.*

Little can be said as yet of the *post-mortem* appearances in this epidemic. In the one fatal case they were looked for, and Dr. Sproat reports in his note that the "liver was enlarged, and the spleen very much so. It weighed two pounds and three ounces, and contained numerous small apophyses. No other lesion was found." So far, then, we have reason to suppose that its pathological anatomy does not differ materially from that of the same disease in Europe.

TREATMENT.

Dr. Rutty, referring to the fever of 1739 in Dublin, writes:—"I was assured of seventy of the poorer sort, abandoned to the use of whey, and God's good providence, who all recovered."

Cormack seems to think that antiperiodics have some influence in preventing the relapse. Robertson and Paterson could not prevent it with quinine, biberine, digitalis, or arsenic. Douglas gave quinine in 24 cases, still the relapse occurred in 22. Smith depended on emetics, diaphoretics, &c., in 200 cases, and concludes that the disease cannot be cut short by any means.

There seems to be a very general conviction among the European physicians that the disease will run its course, do what they may, and therefore that its symptoms afford the only suggestions for treatment. A laxative is recommended in the beginning. Aitkin says, "Five grains of calomel and one grain of opium have been found more efficient in subduing the severity of this symptom (vomiting) than counter-irritation and effervescing draughts. The headache has sometimes appeared to justify the application of leeches to the temples, or a blister to the back of the neck; when the temperature is high, tepid or cold sponging brings some relief."

Dr. Murchison hopes to prevent "the uræmic intoxication, which is one of the main causes of death in uncomplicated cases," by diuretics. He uses two drachms of nitre dissolved in two pints of barley-water daily, the solution acidulated with one drachm of dilute nitric acid; or he would give acetate of potash or nitric ether for the same purpose.

Regarding the treatment of "the post-febrile ophthalmitis," all appear to follow Dr. McKenzie's plan of taking blood locally,—a little will often be enough,—giving calomel and opium to slight ptyalism, and using belladonna and counter-irritation, "as in syphilitis and rheumatic iritis." Dr. Dubois of this city finds that depletion will not do for all cases, and advises quinine and other tonics for those whose general condition is "below par."

In most of our cases no active treatment has been attempted. The disease has a definite course to run, and therefore in its therapeutical relations falls into the same class as measles and scarlet fever. European experience has shown that it cannot be subdued by drugs, or its fever stages shortened. Nothing remains, then, but to give what relief is possible by treating symptoms. Thus far we have not been able to make

* P. S. —Up to the 9th of February ninety cases had been admitted into Bellevue Hospital. Of these, forty-three were males and forty-five were females. The other two were infants, whose sex was not reported. The ages of these ninety persons were as follows, viz.: Eight months, nine months, two years, four years, seven years, nine years, each one.

Between	10	and	15	years	11
"	15	"	20	"	8
"	20	"	25	"	10
"	25	"	30	"	11
"	30	"	35	"	15
"	35	"	40	"	15
"	40	"	45	"	7
"	45	"	50	"	3
At	50			"	2
At	56			"	1
Over	56			"	0

any important additions to the suggestions just borrowed from the English and Scotch practice.

As destitution is regarded as one of the parents of the disease (although, as we have seen, it falls by force of contagion upon those who are well fed, well housed, and well clothed), we look to food and tonics, especially during the intermission, as the means by which strength may be gained to bear the relapse; and in the few cases in which there is threatening syncope in the defervescence, alcoholics will be useful. To "stamp out" the disease, as friend Harris expresses it, all persons, attacked in crowded and ill-ventilated quarters, must be sent at once to relapsing fever hospitals.

To Dr. Louis Sproat, in January, my House Physician, I am indebted for a transcript from the hospital records of the cases on which the last half of this lesson is founded, and still more for his care and intelligence in the investigation of the disease in that division of the hospital to which he is attached. Indeed it has greatly interested me to witness a total disregard of personal risk in all the House Physicians and their assistants, and the earnest devotion of all to scientific inquiry regarding the nature of this new foe to our country's welfare, and to the humane, may I not say holy, offices of the true physician.

Dr. Thomas J. Moon, one of the House Physicians, prepared for one of Dr. Flint's lectures a table showing the frequency of the most important symptoms of this disease in the three Medical Divisions of our hospital, including the cases reported in this lecture; from which I borrow the following:

No. of cases treated up to Feb. 15	.....	103
Jaundice noticed	"	9
Hepatic tenderness	"	18
Splenic "	"	11
Epistaxis	"	21
Nausea and vomiting	"	39
Diarrhœa	"	11
Eruption of some kind	"	5
Delirium	"	4
Bronchitis	"	6
Pains in calves of legs, knee joints and upper extremities	"	103
Pains in head and back	"	103
Constipation more or less	"	92
Convulsions	"	1

Dr. Moon finds two fatal cases in the 103. In one of them death followed suppression of urine, and in the other, referred to already, it occurred in syncope during the first defervescence. It is not right, however, to say that in our cases the mortality was less than two per cent.; because at the date of this report there were at least ten of those still under treatment in whom death was possible.

Dr. Moon counts under the head "Contracted Disease in Hospital" 12.

I may add that among all these cases there has been no instance of repeated relapse, and as yet no occurrence of post febrile ophthalmitis.

(In the next number will be issued a note by Dr. Clark regarding Dr. Dubois' cases.)

Library of the College of Physicians of Philadelphia.—The whole number of volumes in this library amounts to more than fifteen thousand, which is exclusive of 600 volumes of duplicates. These last are for sale.

The Peabody Memorial Hospital.—A site for a memorial hospital has been selected in Blackfriar's Road, London, by the trustees of George Peabody's estate.

CLINICAL LECTURES ON

THE DIAGNOSIS AND TREATMENT OF STRICTURE OF THE URETHRA.

By J. W. S. GOULEY, M.D.,

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Lecture I.

INSTRUMENTS FOR EXPLORATION OF THE URETHRA—DIFFICULT CATHETERISM—AN ILLUSTRATIVE CASE COMPLICATED WITH RETENTION OF URINE—DIVULSION WITH CONDUCTOR.

Dec. 8, 1869.—I propose, in a short series of oral lessons, with illustrative cases, to invite your attention to subjects the importance of which you will, perhaps, more thoroughly appreciate when you have experienced in your own practice the extent of the difficulties which sometimes attend catheterism. The surgical manœuvre which consists of introducing an instrument through the urethra into the bladder, either for the purpose of exploration or for the relief of retention of urine, is made light of by some of our brethren until they find it impossible, from want of dexterity and gentleness, to relieve the sufferers who are committed to their care. It is not till then that they realize the full extent of their responsibility.

You know how often we meet with aggravated cases of cystitis, and grave and incurable disease of the kidneys, which might have been averted by the proper surgical treatment of strictures, at first easily controlled by gradual dilatation; and how much oftener we encounter cases complicated with false passages, which are consequent upon forced catheterism, applied either designedly or through recklessness or ignorance in the use of instruments.

These circumstances have induced me to ask your indulgence and patience while I describe the various procedures which are required for the diagnosis and treatment of some of the affections which interfere with the flow of the urine through the urethra. The patient now before you, suffering from retention of urine, will serve as an additional excuse for my remarks, and at the same time will illustrate and enforce them. In undertaking the management of such a case, the duty of the surgeon is, first, to ascertain the cause of the retention of urine; secondly, to take proper means to relieve the over-distended bladder; and, thirdly, to resort to the safest and best method at his command to prevent recurrence of the trouble. To arrive at a correct diagnosis, it is necessary to take into account the previous history of the patient as well as his present condition, and to make a careful exploration of the urinary tract. Let us apply these principles to the case before us.

Case 1.—J. W. W. is a married man, thirty-three years of age, who has always enjoyed good general health; his build is that of a healthy man, but you observe that he has a pallid and bloated face, with some puffiness of his lids. He has long been addicted to the excessive use of ardent spirits. He has never passed any gravel, nor has he ever suffered any injury of the urethra; but he has had three attacks of urethritis,—the first, fifteen; the last, thirteen years ago; all uncomplicated and well in a short time, with the exception of the last, which was followed by a gleety discharge that has lasted to the present moment. Ever since the last urethritis, he has noticed a gradual but steady diminution in the volume and force of his urinary stream. He has also, for thirteen years, been troubled with irregular chills, which have become quite

frequent for the past three years. During the last-mentioned period he has had no regular jet, but has passed his urine guttatim with much straining and great frequency, often once every fifteen minutes. Strong drink always aggravates his trouble, and on several occasions, after debauches, he has had attacks of urethral hemorrhage. For the last four weeks the urine has dribbled from him constantly, day and night, save that twice within that space of time he has had complete retention, once lasting half a day, and once an hour and a half, relief coming spontaneously on both occasions. For the last four or five years his urine has appeared muddy and has contained a copious sediment, and at times has been alkaline. Latterly he has suffered much from pain in the hypogastric region, accompanied by a constant desire of micturition, which could not be properly gratified. He has also complained of shooting pains in the groins and thighs.

You have learned from the brief history just narrated that the patient has never suffered from calculous disease, and that the retention of urine came on gradually, not suddenly, as would have been the case if a calculus had lodged at the neck of the bladder, or in the urethra; therefore you will naturally exclude that, as you will also the presence of any other foreign body, as a cause of obstruction. You will also remember that he has sustained no injury of any kind to produce impediment to the flow of urine. If, moreover, you take into account his previous good health, his age, and the fact that his gonorrhœas were uncomplicated, you will as readily exclude obstruction from disease of the bladder or prostate. There only remains, then, for consideration, some morbid alteration of the urethral canal, and you will have every reason to look for this if you bear in mind that the patient has had repeated attacks of urethritis, the last followed by a persistent gleet, which is one of the prominent symptoms of stricture of the urethra. But as yet you have only had the patient's statement as evidence—very good so far as it goes, and of great assistance; but you must have something more positive, more tangible, on which to base a diagnosis. You should neither express an opinion nor venture to apply a remedy in such a case until you have thoroughly analyzed all its points, and have resorted to direct exploration of the urethra.

Let us first take a general survey of the patient, and then bring to bear the exploring instruments. You notice that this man's shirt is saturated with moisture, and if you were close enough, you would not fail to perceive the offensive urinous odor which emanates from his person. Notice also, if you please, the well-defined tumor which extends from the pubes up above the level of the umbilicus, and which, as you are now able to hear, is flat under percussion; this is the distended bladder, which must be relieved of its burden. You observe that the prepuce is abnormally long, red, and sodden, from the action of the constantly flowing urine. The perinæum shows no swelling, induration, or any other sign of rupture of the urethra. Another fact worthy of your attention is, that he does not now complain of any uncomfortable sense of distention in the region of the bladder; it is because this organ has been so long filled and is so much overstretched that it has lost its sensibility. It will be found, when the urine has been drawn off, that the bladder has, in a great measure, also lost its contractility. This investigation of the case will remain incomplete and unsatisfactory until mechanical exploration of the urethra has been resorted to, by which the most reliable evidence will be obtained. How is this to be accomplished? Which of the several methods is the simplest, readiest, and safest?

Be advised, and do not attempt to introduce a metallic instrument for the purpose of exploring the urethra in a case such as this one, for you will learn little, if anything, while you may do mischief to the patient; and I remember that if a full-sized instrument can be passed with ease through the whole length of the urethra, you must look for a cause of the retention of urine other than stricture of the canal.

Here is an instrument (Fig. 1) which you have frequently seen me use in this lecture-room; it is commonly known among us as Leroy d'Etiolles' "bougie à boule" (bulbous bougie); it is soft and pliable, with an "acorn-shaped" swelling at the extremity. When it is introduced into the urethra, and encounters even a very slight obstruction, it is arrested in its progress; but a little pressure will generally send it through the constriction with a jerk; if after a few moments an attempt is made to withdraw the bougie, the spasmodic contraction of the strictured canal,—there is almost always a certain amount of spasm in organic strictures,—by pinching the shaft just above the bulbous extremity, makes the withdrawal sometimes almost as difficult as the introduction; it can, however, be withdrawn with very little if any force. In this manner the situation, diameter, length, and number of strictures can be ascertained with tolerable precision. These bulbous bougies vary in size from No. 1 to the largest numbers in the scale, as you see from the set which is upon the table. You should always begin the examination with a good-sized one, and when gentle pressure fails to carry it past the obstruction you must substitute a smaller instrument, until the calibre of the constriction is reached.

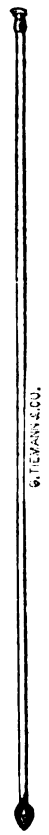

FIG. 1.

The profession is indebted to Sir Charles Bell for the introduction of this mode of exploration; it is true that his instruments were not as perfect as those we now use, but the principle is the same. Bell's "ball probes," as he called them, were little hollow metallic balls soldered to the ends of wires. Leroy d'Etiolles has brought them to their present degree of perfection by modifying their shape, and having them constructed of soft, non-metallic material, which renders them superior to the original in every respect. It is curious that this English invention should have been little if at all employed by the English, after the time of Sir Charles Bell, till within a few years. Perhaps the best bulbous bougies are made in France; latterly, however, our instrument-makers have imported some pretty good ones from England.

Understand, if you please, that these instruments are only intended as explorers, and that they should not be used as dilators.

This bougie, which is six millimetres in diameter at the largest part of the bulb, corresponds to about No. 9 of the English scale.—You see that it readily enters the meatus, but is now arrested and will go no farther.—It is withdrawn to make way for a smaller one, and by measurement the obstruction is found to be situated one-third of an inch from the external orifice.—Here is another bougie, four millimetres and five-tenths in diameter, about equal to No. 6.—With very little pressure it has passed the stricture;—in withdrawing it and measuring again, it is found that the constriction is a quarter of an inch in length.

If you take into consideration the degree of permeability of the stricture which has just been explored, you will naturally conclude that it cannot be the real source of the retention of urine, and that there must be

another constriction farther back. The same instrument will therefore again be introduced;—it is arrested at a distance of four inches, and will make no farther progress.—I substitute the smallest bougie, but it only goes one inch farther back, and will not budge. It is not possible to estimate the length of this stricture, because the smallest bulbous instrument has only penetrated it for the distance of one inch, and cannot pass beyond; the narrowing may extend back another inch, for all we know. This man's urethra has become so narrow at the seat of disease, that less urine flows from the bladder than enters it, consequently the longer interference is delayed the greater will be the accumulation, and relief must come speedily or the bladder or urethra will burst.

Now that the diagnosis has been made, or, in other words, that the nature of the impediment to micturition has been ascertained, let us see what means can be contrived for the relief of our patient. An effort must be made to enter the bladder through the natural channel, without cutting, if possible; but in any event the urine must be drawn off.—Puncture of the bladder, either through the rectum or above the pubes, is at best but a palliative, as it does not remove the urethral obstruction, and besides it is by no means free from danger; it should therefore be rejected.

The methods of treating strictures of the urethra which are now most generally resorted to may be summed up as follows:—1. Dilatation; 2. Divulsion; 3. Internal Urethrotomy; 4. External Urethrotomy. *Dilatation* is usually tried first; if it fails *divulsion* is employed, except in obstinate strictures of the pendulous portion of the urethra or those near the external orifice, in which *internal urethrotomy* should be performed. *External urethrotomy* is demanded in severe contusions of the perinæum, where the urethra is almost always torn across; * in narrow unyielding traumatic strictures, in narrow resilient, and in impassable strictures with retention of urine; also for the relief of cases complicated with obstinate urinary fistulæ.

If the stricture in this case happens to be impassable to the smallest bougies, it can be reached by incision through the perinæum. But this must not be thought of until all attempts to get through it have absolutely failed. In order to facilitate the manipulations upon the deep-seated stricture, the constriction situated one-third of an inch from the external orifice should first be attacked. Experience has taught us that strictures situated at the meatus or in the fossa navicularis are not amenable to treatment by dilatation or by divulsion; in fact any such attempts made upon them are not only ineffectual, but result in greater subsequent contraction. These strictures are best treated by deep incision, which may be made with an ordinary bistoury, or with this concealed knife, which Civiale has called his "urethrotome à bascule." A little instrument closely resembling it was found in the ruins of Pompeii, and was probably used for similar purposes.

I shall introduce this "urethrotome à bascule," or "bistouri caché," and incise the stricture from behind forward along the floor of the urethra, and include the meatus in the incision, stopping only short of making a hypospadias, in order to allow for the contraction which will follow upon cicatrization.—You see that there is no longer any hindrance to the passage of the largest instruments. The hemorrhage is very slight, and will cease spontaneously. I am now ready to commence proceedings against the deeper stricture, and as it has been found exceedingly narrow, it must be dealt with accordingly. First, the urethra will be filled with oil, and then the smallest instruments, such as you see upon the table, will be employed.—Here are the little whalebone bougies, already so familiar to you.—From them I select a straight one, half a millimetre in diameter.—It will not go, as you see, very far beyond five inches.—It must be left *in situ*, that three or four more may be successively passed by its side.—But this does not seem to succeed.—Now this one, which is spiral at its extremity, will be tried.—It appears to enter the bladder;—it moves freely;—but I must satisfy myself that it has reached its destination. The others will be removed, and further exploration will be made with the finger in the rectum.—Pressure made with the point of the finger, in the direction of the posterior surface of the triangular ligament, prevents the instrument from being moved backward and forward. When the finger is withdrawn, you see how easily and freely it moves. This is a pretty satisfactory evidence that it has gone in the right direction. A very important fact is incidentally ascertained by this rectal exploration. It is, that the urethra is dragged upward by the distended bladder, which has become too large for the pelvic excavation, and has been forced up into the abdominal cavity after the fashion of the gravid uterus. What is to be dreaded from this circumstance? The urethra, whose course is greatly changed, has been put so much upon the stretch that even the slightest force would tear it across, or an instrument carried in with any degree of pressure would make a false passage, which would extend back between the prostate and rectum, where urine would escape and cause extensive pelvic cellulitis, with probably a fatal result You can therefore appreciate with what caution and gentleness such a case must be handled, and you see, from the difficulties just experienced, that it would, after failure of the usual modes of catheterism, have been considered as a case of impassable stricture, demanding either puncture of the bladder or external perineal urethrotomy without conductor; but with the method employed it will be made quite tractable. The most important and difficult step of the operation was accomplished when the slender whalebone guide-bougie or conductor was coaxed through the strictured portion of the urethra. This first step succeeding, the others will be comparatively facile. I know of no simpler or more effective mode of catheterism than this. When you have failed with the ordinary methods, have recourse to it, and I am sure you will seldom be disappointed. Always lubricate with oil the urethra instead of the instruments; I consider this essential to success. You should have in your case of instruments at least a dozen of these whalebone probe-pointed conductors, of the length of ordinary gum bougies, and about half a millimetre in diameter—equal to No. ½, or thereabouts, of the English catheter scale. Some should be straight, some spiral, some with the point bent at a little less than the angle indicated (Fig. 2).

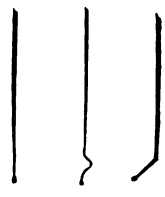

Fig. 2.

Now that the bladder has been entered by the guide-bougie, a little preliminary dilatation should, if possible, be made before attempting to introduce the retention catheter* (Fig. 3), which

* This operation was recommended by Reybard, under the circumstances above referred to, as a preventive of stricture. See his Treatise on Stricture, Paris, 1838, pages 76-80 and 81. More recently Prof. Boeckel, of Strasbourg, has popularized Reybard's views by presenting them in the form of an aphorism:—"Every transverse rent of the urethra is a stricture in embryo,"—and has also proposed and performed external urethrotomy as a preventive. See page 32 of his pamphlet, reprinted from the *Gazette Médicale de Strasbourg*, 1868.

* For a full description of the manner of using the retention catheter, see Medical Record, May 15th 1869.

is three millimetres in diameter, nearly corresponding to No. 3 of the English scale, and is conical, its point being two millimetres in diameter, about equal to No. 1 of the same scale. A groove on its convex side extends a distance of four inches, and is bridged over in its last twelfth of an inch, so as to form a canal for the reception of the whalebone guide. The catheter eye is on the concave side of the instrument, about three-fourths of an inch from its point, and is kept closed by a well-fitted stylet. Its curve is equal to one-fifth of the circumference of a circle three inches and a quarter in diameter.

Fig. 3.

This preliminary dilatation—sometimes divulsion occurs—is, I believe, best accomplished by the aid of this grooved steel staff (Fig. 4),—devised by me seven years ago,—two millimetres in diameter at its point, which is tunnelled for one-eighth of an inch. If the free end of the guide-bougie, which already occupies the whole length of the urethra, be passed through this tunnel or canal, the staff, as it advances, must follow the guide-bougie.*—The point of the instrument now rests against the face of the stricture; there it will be held firmly, but no force will be used. In a few moments it will probably pass the obstruction. If it should not, cutting should be resorted to without delay.—But you observe that it has made some progress.—It has entered the still more constricted portion of the canal, and has reached a point six inches from the external meatus. It will at once be replaced by a larger one (two and a half millimetres in diameter).—This also goes in.

Fig. 4.

—Now I am ready to introduce the evacuating catheter in a similar way, and, of course, with great caution, for it is necessary to pass that portion of the urethra which, as before remarked, is so much displaced as to be very easily injured.—You see that the urine is flowing through the instrument, but without force, for the bladder has lost much of its expulsive power; it must not, therefore, be completely emptied. This basin now contains three pints of urine, and, judging from the volume of the abdominal tumor, there is still probably the same amount in the bladder. This must be removed gradually, for the walls of the viscus have been too long overstretched to warrant its sudden evacuation. It may be several weeks before it recovers from its state of atony.

If the patient is left as he now is,—with the stricture but partially dilated, or rather only to a slight degree divulsed,—it will probably be impossible within twenty-four hours, owing to inflammatory swelling, to pass an instrument and draw off the urine, without running great risk of doing mischief. Therefore the wiser course to be pursued will be to enlarge the urethra forthwith at the seat of stricture, so as to facilitate the introduction of one of the largest sounds. You might ask, Why not treat the case by continuous dilatation? Why not, at least, tie in a soft catheter for only twenty-four hours? Either plan might be adopted under certain circumstances; but there is nothing, at present, to be gained by temporizing, and it is of such long standing as to demand immediate interference; besides, a longitudinal rent of the narrowest part of the strictured urethra has already been made by the conical instruments that have been passed, as shown by the slight hemorrhage which has occurred; and surely there is no additional risk to be run in enlarging that rent—why not do so at once and save time and trouble?

To effect this I shall resort to the method known as divulsion, a term that has long been in use in surgical parlance, but which seems to have only within a few years been employed (by Voillemier) in this connection. It is derived from the Latin *divello*, which means to pull asunder, to rend, and expresses rupture, laceration. It should be used in preference to the word rupture, which is generally employed in the sense of accidental laceration from external violence, as in injury of the perinæum, or of the giving way of the urethra behind the stricture, as for instance, "rupture of the urethra followed by extravasation of urine." The English surgeons still adhere to the terms "to rupture" or "to split" a stricture, and yet they name their instruments "dilators;" if the strictures are "ruptured," "lacerated," or "split," the instruments should be called rupturers, lacerators, or splitters, and not dilators. How much nicer the terms "to divulse," "divulsion," "divulsor." Be it understood then, when I speak of treating a stricture by divulsion, I mean that a longitudinal rent of the strictured portion of the urethra is made. This may be accomplished by the successive introduction of conical sounds, beginning with small ones, or by any of the various divulsors (improperly called dilators) which are in use. These are Perrève's instrument and its modifications by Holt, Richardson of Dublin, and Voillemier; Michéléna's and Sir Henry Thompson's, and their modifications. The simpler the instrument the better.

Here is one which I have modified from Sir Henry Thompson's pattern; its merits will be discussed at our next meeting, as there is scarcely time for this to-day. You see that it is constructed on the same plan as the instruments before introduced, having a short canal at its extremity,—the guide is now engaged in the canal, and the divulsor is being passed into the urethra, so that the portion of the instrument which is susceptible of greatest expansion may correspond as nearly as possible to the narrowest part of the stricture: this is probably about five and a half inches back. Now, observe how rapidly the expansion is being made;—this separation of the two longitudinal halves of the instrument can be effected very slowly or with great rapidity, at

* This method of catheterism is, I believe, an improvement on the old French mode of catheterism upon a conductor, devised by Desault, or on the method of Wakley, or the more modern device of Maisonneuve, which he names "cathétérisme à la suite," with a small gum bougie, which very often coils up in front of the stricture instead of entering it. This very flexible guide has been adapted by Maisonneuve to his urethrotome, and is very liable to be cut across by the blade of the instrument. Voillemier has also adapted it to his divulsor. Here again it has similar disadvantages, and will meet with very little favor. But the whalebone guide-bougie adapts itself admirably to the inflections of the urethra, and is applicable to the catheterism of strictures situated either in the pendulous portion or sub-pubic curve of the canal. I have sometimes used the fine English bougies as guides to the steel staff. They are stiffer, and therefore better than the French.

To facilitate the introduction of the evacuating catheter, I often dilate the strictured portion of the urethra by introducing successively over the conducting bougie two or three of the conical tunnelled staves, even if the constriction should be such as to admit the point of the smallest of the evacuating catheters. These steel instruments, being heavier, can be handled with more ease and safety than catheters. My set consists of four staves; the smallest (No. 3) is 1½ millimetres in diameter at its point, the second (No. 4) 2 millimetres, the third (No. 5) 2½, and the fourth (No. 6) 3 millimetres. Their curve is equal to one-fifth of the circumference of a circle three inches and a quarter in diameter: I have found a greater curve to be of decided disadvantage, as, in that case, the conductor constantly tends to slip away from the groove of the staff—in which it should always be lodged—and thus to render its introduction very difficult, if not impossible.

the option of the surgeon; sometimes it is best to operate slowly.

The divulsor has reached its greatest point of expansion, and the strictured portion of the urethra can now admit with ease No. 18 sound of the English scale. As the instrument is withdrawn you will perceive that its two segments are not completely approximated, they are in fact only half closed: this precaution had better always be taken, for sometimes, especially if the instrument is not carefully made, the urethra is pinched up between the closed segments, and in pulling out the divulsor a portion of the mucous membrane is torn away.

The hemorrhage, you see, scarcely exceeds a drachm. Observe, if you please, how easily this No. 16 sound slips into the urethra and enters the bladder. No anæsthetic has been used, because I thought it was necessary that I should be guided by the patient's sensations.* He was very nervous and irritable, his urethra was very sensitive, but he suffered more from anticipation than from the real pain. You will almost always succeed in managing such a patient to your satisfaction by kind words and a light hand. He will now be sent to bed, and the after treatment will consist of free doses of quinia, ten grains of which, with a quarter of a grain of morphia, will be given at once. To-morrow he will begin to take ten-drop doses of tincture of the chloride of iron. It is a mistake to give more than ten drops of this drug three times in the twenty-four hours; often I give but five drops at a dose. Many administer twenty or even thirty drops at a time, but this is a waste of material; besides it is very apt to derange the digestive functions, and to give rise to annoying constipation and other unpleasant disorders. His urine will be drawn at regular intervals until his bladder is quite emptied, and then the organ will be injected twice a day with tepid water, until it regains its power of contractility and the cystitis has subsided. Then once every third day a full-sized steel sound will be passed. Next week you will probably be able to examine the patient and see for yourselves the result of all that has been done to-day.

Original Communications.

OBSERVATIONS ON THE ADIRONDACK MINERAL SPRING.

By JOHN BELL, M.D.,
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Acting on the recommendation of Dr. Hanbury Smith, when he read his paper on mineral waters as therapeutic agents, before the N. Y. Academy of Medicine, as reported in the Medical Record, Nov. 1869, I submit a few observations on a recently discovered mineral spring called the Adirondack. If our therapeutics are to undergo a thorough and beneficial change by the substitution of a large class of active yet readily controllable medicinal agents, congenial with the wants of the organism, for drugs which are often harsh and irritating in their operation, and mischievous when not serviceable, we must have recourse to mineral waters. With them we can meet nearly every indication in the treatment of chronic diseases, and by judicious selection combat not a few of those of an acute character. The subject has always been one of deep interest to the present writer, and been often presented by him, under various aspects, in publications which need not now be named.

The Adirondack mineral spring was only discovered in the latter part of the year 1868. It derives its name from its flowing at the base of one of the spurs of the Adirondack mountains. The spring is situated in the village of Whitehall, in the northern part of the State of New York, at the head of Lake Champlain. An analysis by Professor Colyer, of the University of Burlington, Vermont, gives the following proportion of ingredients contained in an imperial gallon of the water:—

	Grains.
Free Carbonic Acid	67.257
Carbonate of Lime	18.543
" Magnesia	16.618
" Potash	5.317
" Soda	5.040
" Lithia	.023
" Iron	5.040
" Manganese	traces.
Chloride of Sodium	14.340
Sulphate of Lime	11.134
Alumina	traces.
Silica	.742

Iron is contained in the Adirondack water in larger proportion than in most of the mineral springs; potash, in very appreciable quantity in it, is rarely met with beyond a mere trace in others.

Were we to speculate on the probable effects of the Adirondack water deducible from its chemical composition, we might be led to believe in its serviceableness as a tonic, an acid and genial stimulant, in various disorders of the digestive and renal apparatus, and of the skin; but we prefer telling at once what experience has thus far revealed of its therapeutical value. This water is clear and colorless, and of a taste slightly chalybeate, conveying no adequate idea of the strength of its mineral impregnation. After a time it shows a yellowish deposit, which, by agitation of the bottle holding it, is redissolved. Its first most marked and decided operation is on the kidneys, as a diuretic; occasionally, when taken fasting or on an empty stomach, to the extent of a pint, it acts as an aperient. The common dose is half a pint three times a day, and when continued for a length of time half of this quantity. Like so many mineral waters, it sometimes affects the head with a feeling of tension and slight dizziness.

The concurrently favorable opinion, expressed by the physicians of Whitehall, of the efficacy of the Adirondack water in serious renal disorders and chronic rheumatism, has been confirmed by the experience of medical gentlemen of Philadelphia. Dr. D. H. Agnew employed it with the most satisfactory results in the case of a man suffering under symptoms of stone, and with albuminous and bloody urine, which last was very scanty. The urine had become ropy and offensive, notwithstanding the use of all the ordinary diuretics. Recourse was now had to the Adirondack water, and "in thirty-six hours the urine became copious and soon free from mucus, and washed out two calculi, the size of a coffee-grain each." Prompt relief and a speedy cure were procured for another patient with albuminous urine and defective renal secretion, after she had been confined to her room for several weeks under the usual treatment. In a case of rheumatism under the care of Dr. Agnew, the water excited such a free secretion from the kidneys as to require it to be continued in small doses. This gentleman has also described to me another case, one of nephritic colic, with scanty and bloody urine, in which the water was taken with equally prompt result as in the other cases, and shown by the discharge of a large-

* In only one instance, out of many operations, have I been obliged to administer an anæsthetic.

sized concretion. Dr. Agnew thinks there can be no doubt of the powerfully diuretic property of the water. In a case supposed to be one of a retention of a calculus in the pelvis of the kidney, for which he ordered the water, such was the profuse flow of urine in consequence that the patient was obliged to desist from its use, owing to his being so much disturbed at night. Dr. E. Wallace regards the water as superior to any of our known diuretics; and in a case of pleural effusion, with partially solidified lungs, under the care of Dr. Da Costa and the writer, in which different diuretics had been directed by them without success, eventually recourse to the Adirondack water was followed by copious renal secretion and much relief to the patient, whose appetite also was improved by the remedy. Other instances of its actively diuretic operation could be cited by the writer. Dr. Wallace relates his having obtained a complete cure of a person who had suffered greatly from subacute rheumatism, affecting particularly one knee, and from excessive prostration. Giving the water at the same time with other remedies, he found that when it was discontinued the renal secretion became immediately impaired, but was soon restored and increased by recourse to the use of the water. Dr. Shumway of Whitehall regards its general effects to be stimulant, tonic, and diuretic; in excessive doses producing headache, giddiness, gastric oppression, and irritation of the urinary organs. "In proper medicated doses it promotes digestion, increases the flow of urine, gives tone to the capillary vessels of the skin, and is a healthy stimulant to the secretory and excretory organs generally." Enough is known of the properties of the Adirondack water to prompt its use in atonic dropsy and in an anæmic condition of the system, so often represented in chlorosis, leucorrhœa, and amenorrhœa, and associated with chorea, hysteria, and hypochondriasis. There is reason also to believe in its curative powers in certain forms of dyspepsia, cardialgia, and pyrosis, and in diarrhœa and torpor and congestion of the liver. Drs. Bennett and Ling, of Whitehall, cite each a case of diabetes mellitus cured by this water. One of the patients under its use gained fifteen pounds in weight in four months. From the quarter just mentioned we learn instances of gravel speedily and permanently relieved by drinking the water, and others of difficult and painful urination, and even complete obstruction, yielding to the same remedy. Its curative powers have also been displayed in some obstinate cutaneous affections of the vesicular and squamous kind.

Progress of Medical Science.

Oil of Sandal-Wood.—Dr. Park, of Stanmore, England, states, in the *Practitioner*, that after twelve years' experience with the oil of yellow sandal-wood, he is convinced that it is the safest and most reliable drug we possess for the cure of blennorrhagia. He administers five minim doses every four hours.

Hypodermic Use of Ergot in Pertussis.—C. T. Deane, M.D., Phys. to S. F. Female Hospital (*Cal. Med. Gazette*), has used ergot hypodermically in an obstinate case of pertussis, and is much pleased with the result. He employed the watery extract according to Beaujean, and injected it in the arm every other day for eight days.

Treatment of Eczema.—Dr. Erasmus Wilson, F.R.S. (*Jour. of Cutaneous Medicine*), after endeavoring to show in the treatment of eczema, that the patient needs repose, quiet, rest, and proper and nutritious food without stint or limit, asks: "What else is to be done? Shall we purge or physic the patient? God forbid. If the bowels are confined, help them with a little magnesia and rhubarb, or manna, or castor-oil; if the patient is emaciated, and exhibits a tendency to waste, the prostration may be checked by cod-liver oil; but the one and almost indispensable remedy is the nerve-restorer, arsenic. Try two minims of the liquor arsenicalis three times a day in the following combination:—℞ Vini ferri, ℥ iss.; syrupi simplicis, ʒ iij.; liquoris arsenicalis, ℥ i.; aquæ anethi, ℥ ij. Misce. One drachm will give two minims of liquor arsenicalis. It may be administered pure, and just at the end of the meal, so as to be mixed with the meal in the stomach. The physician should watch narrowly the arsenical solution to see that it occasions no nausea, no gripes, and no prostration of power. These are its primary effects when it disagrees with the system, and there are sundry subsequent effects, such as a puffy swelling of the eyelids, the cheeks, or limbs; and later still, congestion of the vessels of the conjunctiva."

Calomel an Accelerator in the Evolution of Teeth.—According to M. Champonillon (*Missouri Dental Journal*), calomel accelerates the evolution of the teeth in the first dentition. He cites *two* (!!) cases confirming his views.

An Epidemic of Hemeralopia in the Strasbourg Garrison.—Médecin-major Poncet communicates to the editor of the *Gazette Hebdomadaire* (No. 29) an account of an epidemic of hemeralopia which occurred at his garrison during the months of May and June last, principally in members of the 18th and 96th regiments of infantry. Thirty of these cases were daily submitted to independent ophthalmoscopic observations, and the result of the examination recorded.

Animal and Human Vaccine.—In a recent discussion in the French Academy of Medicine, published in the *Gazette Hebdomadaire*, M. Guérin reviewed the evidence for and against animal vaccination, and came to the conclusion that there was an essential difference between vaccine obtained directly from the heifer and human subject. The latter he believed to be much more active and reliable, and, in fact, a different principle resulting from two elements—one human and one animal. He questioned very seriously the propriety of banishing human vaccination from the public establishments in order to substitute animal vaccination in its place.

The Uses of Ergot.—Dr. J. W. Curran gives the following as his experience with ergot of rye in diseases for which it is not usually prescribed:—

Hæmoptysis I have frequently arrested for a time with ergot, with good effect in the commencement of phthisis; but I should not be disposed to prescribe it, lest vomiting should be set up in the hæmoptysis which sometimes accompanies the advanced stages of pulmonary consumption.

Hæmaturia.—I have found great benefits from the tonic effects of ergot upon the blood-vessels, in causing a diminution of their calibre, and arresting hemorrhage from the kidney. I can safely say that its effects are superior to either turpentine or the vegetable acids in this complaint, and that the same observation applies to the tonic effect it produces on the muscular fibre of the bladder in those cases of general atony which come under our notice, and for which so little permanent good can be done.

Constipation of the Paralytic is strikingly remedied, when the most powerful cathartics fail, by occasional

doses of ergot, which sensibly diminish the amount of blood present in the spinal cord and its membranes, give tone to the muscular fibre of the bowels, and thus propel the fæcal matter to the rectum.

Fatty Degeneration of the Heart.—I have had and still have two patients suffering from this complaint, who are very materially assisted by occasional doses of ergot. I can only compare its tonic virtues to that of carbonate of ammonia, but as experience is limited I cannot write emphatically.

As an Injection in Gleet.—I believe I have been the first to use the infusion of ergot in this complaint, and I have not yet failed. I employ the pharmacopœia infusion, and direct its being injected three and four times in the day. I observe the tonic power it imparts to the urethra.

When the injection is thrown along the urethra, I direct the meatus urinarius to be firmly pressed against the nozzle of the syringe, so that the ergot may lie for five minutes in the urethra; for experiment has taught microscopically that the effect of ergot locally applied to a raw surface is, 1stly, to increase the circulation; 2dly. to suspend the circulation; 3dly, the circulation recovers itself, is still disturbed and irregular, or spasmodic, showing that the contraction and relaxation of the muscular coats of the arteries are subservient to the will of the ergot, hence undue contraction producing gangrene. These series of phenomena upon the blood-vessels of the urethra at all events set up healthy action and cure a foul disease.—*Medical Press and Circular.*

An Improved Apparatus for Fracture of the Inferior Maxillary Bone.—Wm. G. Bullock, M.D., Prof. of Surgery in the Savannah Med. College (*Am. Jour. Med. Sciences*), has invented an apparatus for fracture of maxillary bone, which for lightness, adaptability, simplicity, and convenience, he claims is superior to Lonsdale's, or any of those figured in *Hamilton on Fractures* or in Wales' *Mechanical Therapeutics.* This instrument consists, like that of Lonsdale, of a grooved plate or dental splint made of ivory, metal, or vulcanized india-rubber, accurately adjusted to the teeth or alveolar (by first taking an impression of the jaw, as is done by dentists, in wax, gutta-percha, plaster of Paris, or some pliable substance), to which grooved plate are welded projected arms of stout iron wire, about opposite the bicuspid teeth, arched so as comfortably to project out of the mouth without interfering with the lips. The ends of the projecting arms are bent to form holes through which pieces of cord, thread, or wire, are passed to attach the dental splint to a piece of wood, say a portion of a cigar-box cover, for a chin-piece, placed under the jaw, serving the purpose of a submaxillary splint. This latter should have four holes in it, two on either side, to make it more secure. This comprises the entire apparatus, and is applied to a fracture of the lower jaw, whenever the fracture is in the body of the bone, by fitting the dental splint to the teeth, placing a compress of patent lint or some soft material between the under surface of the chin and the submental splint, then tying the tails of the thread, or twisting the wire passed through the holes in the latter splint to the projecting arms of the former, thus doing away with the necessity of bandages over the head altogether.

Ligation of External Iliac Artery for Elephantiasis.—Hueter (*Arch. f. Klin. Chirurgie*) recently ligated the external iliac artery of a girl of 23, who was afflicted with *Elephantiasis Arabum.* Her left lower extremity had gradually attained an enormous size, from the toes upward, without the supervention of erysipelatous attacks. The peritonæum was left intact. The skin of the leg was soft, and could be lifted in folds eight hours after the operation. The wound healed kindly. The following decrease in size was noticed:—

	May 9th.	May 30th.
Circumference above the malleoli,	46 ctm.	26 ctm.
" middle of the leg	52 "	35 "
" knee	50 "	36 "
Greatest circumference of thigh	71 "	56 "

The patient is now under treatment, and the size of the limb is constantly decreasing.

The operation has been done, including this case, fourteen times; a cure was attained in nine cases, improvement in three. The subjoined arteries have been ligated for elephantiasis: The femoral nine times, the carotid once (on both sides), tibialis anticus once, the iliac twice.

Powdered Camphor a Dressing for Chancres.—M. Champouillon (*Recueil de Méd. et Chir. Militaires*) recommends a dressing of powdered camphor in primitive chancres, whether soft or indurated. In ordinary cases cicatrization occurs in ten or twelve days. This application is best adapted to chancres of the fossa and of the upper part of the glans, and internal face of the prepuce.

Case of Recto-Ischiatic Fistula.—A case of *recto-ischiatic fistula* of unusual interest is published in the *Transactions of the Penn. Med. Society*, by D. W. Bland, M.D., of Pottsville, Pa. A married lady, æt. 42, subject to hepatic colic and biliary calculi, was alarmed at the passage of fæces per vaginam, and upon examination not only a recto-vaginal fistula was found, but a very large fistulous sinus leading from the rectum some four inches deep into the glutei muscles. The index-finger could easily be passed into this sinus. The patient was placed upon general tonics, and an injection of carbolic acid gr. x., glycerine f℥j., aqua f℥ij., was directed to be used morning and evening. This treatment was persisted in for five weeks, with most gratifying success. The deep sinus closed up entirely; the vaginal opening is now restricted to a very small size. She has effectually recovered, and is now able to perform her household duties.

Hypodermic Injection of Morphia in Nausea and Vomiting.—Dr. T. V. Hammond, of St. Louis (*Med. Archives*), relates a case of vomiting and nausea, occurring at the period of menstruation, in a girl of 17, who was immediately relieved by the hypodermic injection of morphia.

Sulphite of Soda in Scrofulous Otitis.—Chas. M. Watson, M.D., of Brookville, Pa. (*Am. Jour. Med. Sciences*), finds the subjoined solution an invaluable remedy in scrofulous otitis:—Sodæ sulphit., ℈ij.; aquæ destil., glycerinæ, ää ℥ss. The ear should be well washed out with warm water and castile soap, and dried with cotton wool, after which 8 or 10 drops of the solution may be dropped into the canal and the air excluded with a pledget of cotton. This should be repeated thrice daily as long as the ear discharges.

Face Presentations.—Isaac E. Taylor, M.D., physician to the Bellevue and Charity Hospitals (*N. Y. Med. Jour.*), in a voluminous paper "On the Spontaneous and Artificial Delivery of the Child in Face Presentations, with the Chin Posteriorly," concludes his remarks by the following propositions:—

1st. That mento-posterior positions of the face are the most frequent; that spontaneous delivery may be accomplished as easily, readily, and safely as in mento-anterior cases; though the face has descended

into the excavation, the rotation of the chin forward to the pubes can occur, and sometimes just as the child appears to be born. 2d. That these cases may be delivered spontaneously by cephalic version in the pelvis, and by the passing also of the child's face over the perinæum, the chin appearing first. In other cases, the occiput may emerge from under the pubes *first*. 3d. That if rotation of the chin anteriorly cannot be accomplished naturally, nor by artificial resources, he proposes, first, the *division of the perinæum laterally*, on whichever side the chin presents, and before craniotomy is performed. 4th. Should the natural powers of the uterus not effect delivery, even after division of the perinæum, the application of the long *straight* forceps should be resorted to in preference to the curved, and the direction of the traction should be made directly downward and backward.

Contractility of the Lungs—Relations of the Pneumogastric Nerve to Respiration—An as yet Unnoticed Cause of Sudden Death.—A note of M. P. Bert was recently presented to the Parisian Academy of Medicine, by M. Claude Bernard, of which the following summary appears in the columns of the *Gazette Médicale de Paris* (p. 491):—

Pulmonary Contractility.—The experiments performed by the author permit him to affirm that the lung tissue is contractile, and that its contraction takes place under the influence of the pneumogastric nerve. He employed the graphic mode of investigation to prove this. The air which the contraction of the muscular fibres of the bronchial tubes expelled from the lungs raised a lever, and the trace furnished by this lever thus afforded the proof of this very contraction.

Influence of Excitation of the Pneumogastric Nerve upon the Respiratory Rhythm.—It is known, ever since the experiments of Messrs. Traube and Claude Bernard, that the electric excitation of the central portion of the pneumogastric nerve arrests the respiration instantaneously. But the greatest uncertainty prevails as to the phase of respiration during which this arrest takes place. Traube, Bernard, Snellen, and others, say it occurs in the inspiration. Budge, Eckhard, Owsjannikow, and others, maintain that it takes place in expiration.

More recently, Rosenthal believes that he has established the fact that the excitation of the pneumogastric nerve arrests the respiratory movements in inspiration by contraction of the diaphragm and the other inspiratory muscles. But, according to him, excitation of the superior laryngeal nerve produces an inverse effect—that is to say, an arrest in expiration by relaxation of the diaphragm, and tetanization of the expiratory muscles.

The numerous observations of the author, whose exactitude is guaranteed by the graphic traces, permits him to formulate the following conclusions:—

1st. Respiration may be arrested by excitation of the pneumogastric nerve, the superior laryngeal nerve, and the nasal branch of the sub-orbital nerve.

2d. This arrest may take place in expiration or in inspiration, by means of any one of these nerves, without the apparent intervention of a derived current.

3d. A feeble excitation accelerates the respiration; a stronger excitation retards it (and this for all the centripetal nerves); a very strong excitation arrests it (specially to the nerves above mentioned). These words, *feeble* and *strong*, have but a relative sense for a given animal, and in given conditions.

4th. When the respiratory movements are completely arrested, so are the general movements of the animal, which remains immobile.

5th. The respiration returns during the same excitation.

6th. It is easier to obtain arrest of expiration than of inspiration, and there are even animals in which it is impossible to obtain the latter.

7th. If we employ a very powerful excitation to arrest the respiration in inspiration, we may cause the respiratory movements (inspiration, demi-expiration, expiration) to cease instantaneously the moment the excitation is applied, and that whether acting on the pneumogastric or on the laryngeal.

Sudden Death by Excitation of the Pneumogastric Nerve (Central Portion), of the Inferior Laryngeal Nerve, or of the Nasal Nerve.—When the excitation of these nerves is sufficiently energetic it may determine a sudden death without convulsions; respiration and the general movements of the body are immediately arrested, and the animal dies as if struck by a thunderbolt. M. Bert has thus obtained the death of mammifers and birds, particularly ducks,—an important fact, for the suddenness of death with ducks shows that it is not due to an asphyxia (ducks resist asphyxia from eight to fifteen minutes).

It is due probably to a cessation of action, a *sidération*, by too strong centripetal excitation of that respiratory centre, of which the name *vital knot* seems, in part, justifiable.

Removal of a Shawl-pin by Tracheotomy.—In May last Dr. J. C. Reeve, of Dayton, Ohio (*Am. Jour. Med. Sciences*), removed from the trachea of a little girl, eight years old, a shawl-pin three and a quarter inches in length, by the operation of tracheotomy. At the end of forty-eight hours after the operation she was out of danger, and her convalescence was uninterrupted.

Sulphuret of Potash in Hooping-cough.—Dr. McLean of Hamilton, Ont., has used this drug with great success in this disease, in doses of a grain for each year up to four years of age, and after that half a grain additional for each year; the smaller doses being given in a teaspoonful of fluid, and the larger more diluted. Its beneficial effects are not perceivable for five days, when the interval between the coughs becomes longer, and after that their violence diminishes from day to day, until at the end of ten or fourteen days it is seldom necessary to pursue the treatment further.—*N. Y. Medical Journal.*

Removal of a Hair-pin from the Uterus.—Dr. Haine relates the case of a woman, who, thinking she had disease of the womb, had introduced a hair-pin, which slipping from her fingers had entered the uterus, where it remained. The finger, speculum, and the first trial of a catheter in the uterus revealed nothing. The woman insisting that the hair-pin entered, bent end foremost, a second trial with a catheter was made and the hair-pin discovered. By good fortune both legs were caught in the forceps, and the pin readily withdrawn.—*Pacific Medical and Surgical Journal.*

A Case of Labor with Varioloid.—Dr. Elstun reports the following case to the *Cincinnati Lancet and Observer:* A lady was taken in labor during an attack of varioloid which had come on about five days previous. The pustules were fully developed and were quite abundant all over the body. The labor was somewhat tedious, lasting about 18 hours. The child was strong and healthy, and was vaccinated on the following day, it nursing from the breast and sleeping in the same bed with the mother. The vaccination took nicely by the fifth day, and the patient escaped varioloid.

THE MEDICAL RECORD.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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CASH PAYMENTS FOR MEDICAL SERVICES.

THE "Almighty Dollar" has its attractions for every class of individuals, high or low, rich or poor, reputable or disreputable, learned or unlearned. Although by a few it is considered in its plentiful possession as secondary to many other things, no one refuses to take care of it when thrown in his way. Every one recognizes in it a talismanic power for good in securing almost everything we may covet, either as luxuries or necessities. The hard-worked physician is not by any means to be left out of the catalogue, and with the rest of mortals is compelled to look upon the possibility of its more rapid accumulation with the keenest interest. Despite his love for science, investigation, experiment, and invention, his experience has taught him the intensely practical lesson that the actual necessities of his physical being depend solely on the amount in his money bag, or the extent of his bank deposit. He may study his profession for pleasure, but he must practise it for money. The greatest minds in the profession have not been insensible to this truism, and have always been compelled to sacrifice science to pelf.

John Hunter had to leave his study more than once for his guinea-fee, and very few at the present day are above such a necessity. We need not, however, enlarge on this point; our purpose at present is not so much the discussion as to the way we have to earn our money, or the necessities which drive us to it, but to the difficulties we encounter in collecting our fees. It is generally estimated that from forty to fifty per cent. of the physician's earnings are swallowed up in good promises and bad debts, a condition of things due almost entirely to the prevalent credit system. Is it not time that there should be some change for the better with us? Every practical business man has long since learned that the only true basis upon which pecuniary success can rest is the cash principle; and why, we ask, is there such a reluctance on our part to profit by this experience? There is no calling which, from the peculiarity of the services rendered, makes prompt payment more imperative. We come to the patient in his dire extremity, we relieve him, and not unfrequently save his life by our direct ministrations, at a time, too, when he is most grateful for the services, and consequently most willing to remunerate us. If, on the other hand, a credit follows, his desire to repay lessens in a direct proportion to the time which elapses, until finally it vanishes entirely.

> "Three faces wears the doctor: when first sought,
> An angel's—and a God's, the cure half wrought;
> But when, that cure complete, he seeks his fee,
> The Devil looks then less terrible than he."

Illustrative of the same truth is a story told by Jeaffreson, of Bouvart. On entering one morning the chamber of a French marquis whom he had attended through a very dangerous illness, he was accosted by his patient in the following terms:—

"Good day to you, Mr. Bouvart; I feel quite in spirits and think my fever has left me."

"I am sure it has," replied Bouvart dryly. "The very first expression you used convinces me of it."

"Pray explain yourself."

"Nothing is easier. In the first days of your illness, when your life was in danger, I was your *dearest friend;* as you began to get better, I was your *good Bouvart;* and now I am *Mister Bouvart;* depend upon it, you are *quite* recovered."

The affection which naturally is shown by the patient to the physician when the former is *in extremis*, is, in the abstract, refreshing and encouraging, but it would be more so if the poor sufferer could think so beyond the time when he has got all he wants in the shape of treatment. If human nature is so perverse as not to allow the fulfilment of these conditions, the physician must not be blamed for protecting himself and acting as much as possible on the maxim, "accipe dum dolet." The same idea is more elegantly expressed by the Scotch bard when he says:

> "Take the fee
> While the tear is in the ee."

Another strong reason for insisting on cash receipts is found in the rapidity with which money changes hands in this country. Fortunes are not unfrequently made and lost in a day, and the patient who may be abundantly able to pay our fee to-day, may be a bankrupt to-morrow. When the latter is the case, the physician is the most insignificant among the creditors, the last on the list for a compromise. Again: The migratory character of the people in this country is a powerful argument in favor of prompt collection. Our floating population is larger than that of any civilized country. Every year, and not unfrequently every month, the furniture truck is at the door of these nomads, and in the course of the succeeding twenty-four hours not a vestige of their previous sojourn is left. There are not unlikely many discomfited creditors in the background, but most certainly among these will be the neighboring doctor who succeeded in "raising our Johnny from scarlet fever," or who "brought our Jennie into the world."

The benefactor is either paid by a benediction for conscience' sake, or else is laughed at as a fool.

In a commercial community such as ours, a man's ability is measured more by his business tact than his brains. The physician who does not appreciate the truth of this will certainly be the loser. If we leave the impression upon the mind of our patient, that money is a secondary object with us, he will make it a tertiary one with himself. If it is of no consequence to us, how should it be to him? The very natural conclusion to which he must arrive is, that we are not particular about our cash, simply because our services are virtually worth nothing. Everything with business men, and with all classes, has its value in accordance with the business-like way in which the said value is fixed.

We have ourselves to blame after all, not only for the prevalence, but the continuance of the credit system. It is a peculiarity of the American medical profession. In no other country is it tolerated as with us. Practitioners in London and Paris, for instance, are, almost without exception, paid as soon as the visit is made, and most certainly when the patient is a stranger. The fee is handed them before they leave the house, and it comes just as natural for the patient's family to do so as to pass the time of day. In consequence of this the custom has grown upon these gentlemen to carry their money-bags with them in their carriages, in order to do away with the uncomfortable accumulation of guineas and francs about their persons!

We must own that our transatlantic friends have reduced the fee question to a science; and while making this acknowledgment, we have no right to say that they have thereby suffered in the estimation of the people. If we hold that such a practice is wrong, then the leading practitioners of Europe are nothing but a set of tradesmen. We can, after all, only make this difference between them and ourselves: they want the money, make an honest confession of such want, and then take it; while we want it perhaps more than they, are ashamed to have it known, and still more ashamed to take it. We allow a false delicacy to rule us, and designing patients take advantage of it. Practically it has come to this: if, in a majority of cases, we do not demand our fee at once, we will never get it. If the patient is made aware that our rule is prompt payments, he will contrive in some way to comply, and if not, the sooner we rid ourselves of him the less will we do for him for nothing. When we desire to work for charity, there are plenty of dispensaries and hospitals to which we can devote our time and understand what we are doing it for; but no stranger should have the presumption to enter our office and seek advice under the garb of a pay patient unless he has our fee in his pocket.

One of the great disadvantages of the credit system, not only to the physician but the creditor, is the apparently enormous amount which in the course of time accumulates, disposing the former to reduce it below what it should be, and scaring the latter into a total inability to pay any of it, except a still farther extension be granted. Both may be well meaning, but each does an injustice to himself. The chance is in the end that the physician not only is not paid, but loses what under the other rule would be a good patient. It is better policy for the sake of cash to accept from the majority much less than our usual charge than afterwards run the risk of collecting it when it gets on our books. The risk of losing it altogether is certainly fifty per cent., added to which are the expenses of the collector, the compromises, and the annoyances of constantly hoping against hope. A name may be good for any amount, but by being simply on our books cannot pay our debts.

The cash system is beginning to be adopted by many of our leading practitioners with the best of results. With many it is a rule strictly enforced, that no stranger comes to the office a second time, and that no strange family is visited more than once unless the required fee is paid. Experience has proved that the patients who are of the proper sort make no objection; in fact, rather prefer that it should be so. Every gentleman who chooses to adopt the plan will corroborate this statement, and will be surprised at the small number of exceptions that are necessary to be made to the rule. The want of a system of prompt payments is one of the main causes why the medical profession of this country are so poor. It is with the majority comparatively easy to make round incomes on their books, but it is exceedingly rare to find that these amounts can be balanced with cash. We cheat ourselves into the idea of prosperity by counting up our figures instead of our money. With few exceptions, none have made fortunes in this country by the practice of medicine, while the contrary is not a very uncommon thing with our confrères of Europe. No medical man in this country can claim an average income of one-half what Sir Astley Cooper or Sir Benj. Brodie obtained years ago; neither can they approach the sums that have been accumulated by Dupuytren, Velpeau, Trousseau, and Jobert de Lamballe. It does not appear that the charges made by these gentlemen averaged proportionately higher, all things considered, than those made by equally prominent practitioners in this country; neither can it be shown that the cash system reduced their receipts.

New Mount Sinai Hospital.—This new Jewish Institution is to be erected on Lexington Avenue, between Sixty-sixth and Sixty-seventh streets. Although this hospital was established by the Jews, it has always taken care not only of Jewish patients, but of those belonging to other denominations as well. During the past 3 years, over 50 patients who had met with accidents on the Hudson River Railway alone had received medical and other attendance at the Institution, and that of this number only one was an Israelite.

Three hundred thousand dollars are required to erect the building, and of this amount $50,000 have already been subscribed, by such men as A. T. Stewart, Peter Cooper, Benjamin Nathan, Wm. Butler, Duncan, Fisk & Hatch, and others—representing all religionalities.

Reviews and Notices of Books.

A Manual of Clinical Medicine and Physical Diagnosis. By Thomas Hawkes Tanner, M.D., F.L.S., pp. 366. Third American Edition. Philadelphia: Henry C. Lea, Publisher. 1870.

This practical manual has been for a long time out of print. The task of preparing a second English edition has been assigned to Tilbury Fox, M.D., London, Physician to the Skin Department in University College Hospital, who has enhanced the value and popularity of the work by adding much new matter with which every student and practitioner should be conversant. It contains an account of the clinical examination of persons for life insurance, and points connected with medico-legal investigations, which are alone worth the price of the work.

The proper mode of using the Laryngoscope, Ophthalmoscope, Sphygmograph, and Thermometer, is a new and noticeable feature of this edition. The last chapter, "On the Chemical and Microscopical Examination of the Blood, Expectoration, Vomited Matters, and Urine," is full of interest, the author having consulted the best authorities on these subjects.

The indistinct type and inferior paper do not reflect much credit on the American publisher.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, February 9, 1870.

Dr. Jos. C. Hutchison, President, in the Chair.

(Continued from page 20.)

Thrombus of the right subclavian artery and sudden occlusion of the left subclavian by the free extremity of the clot being forced into it by the current of blood.

Dr. S. Fleet Speir exhibited a specimen of above with the following history:—Mrs. H——, age 41, admitted to the Brooklyn City Hospital—service of Dr. H. S. Smith—Jan. 13, 1870. About four months ago she was taken suddenly on the street with pain in the region of the heart and shortness of breath; she was carried home and recovered from severe symptoms in about three weeks, there always remaining a considerable amount of dyspnœa, which was increased every three weeks. During most of this time she has had to sit up all night on account of the difficulty of breathing. The patient was greatly emaciated. There was dulness at the lower part of the right side of the chest—left side resonant, crepitant râles on the right side, and fremitus increased. Pulse 92, weak and intermittent—a beat lost in every six. The patient has not menstruated since she was taken sick. She has had three children.

Jan. 17. Pulse 100; temperature 98°. There are spots of purpura on some parts of her body—especially the extremities.

Jan. 31. There was noticed to-day, for the first time, a swelling of a bluish color and œdematous character low down on the left side of the neck, and also of the left arm and hand. The swelling of the hand and arm commenced at 9 A.M., and at 1 P.M. the tumor of the neck was noticed. The swelling of hand and arm, and also of the tumor, pits on very deep pressure. There is no pulse to be found either in the radial, brachial, subclavian, or carotid arteries of the left side.

Feb. 2. The tumor in the neck has decreased somewhat, but the swelling of the arm has increased. Patient died from asphyxia to-day.

Post-mortem examination (made by myself) about ten hours after death. Abundant sub-arachnoid effusion and serum in all the ventricles of the brain. Two points of peripheral apoplexy on left anterior and middle lobes of the brain; œdematous condition of the brain substance; cystic degeneration of the pineal gland. Between the muscles of the anterior part of the neck there was a purulent infiltration extending to a considerable distance on each side of the median line and low down on the right side of the neck; all the veins of the right side of the neck were distended with coagulated blood. There was a considerable enlargement of the thyroid gland. The *thymus gland* was also much enlarged, being of the size of an English walnut, flattened a little. The veins of the right side contained no clotted blood. The brachial artery contained a very small, thin clot about one inch and a half in length. But the vessel was not occluded by it; the subclavian artery was free from clot. Heart: masses of broken-down clot were found lying loose in the right ventricle and also firmly attached to its wall and imbedded in the meshes of its muscular structure. A large thrombus was found in the left subclavian artery, not entirely filling its calibre, but extending into the innominata and aorta, its large extremity passing across the upper part of the aorta and entirely filling up the orifice of the right subclavian, and the side of the clot obstructing at the same time the left carotid. Thus the clot, originally of the left side, was prolonged by the current of the blood into these vessels of the right side, and caused a complete obstruction to the circulation through them. The clot on the left side did not entirely occlude the vessel. The left lung was found adherent to the pleura in some places—otherwise healthy. The right lung was the seat of encysted empyæma. From the appearance of the interior of the artery and the clot, as well as the surrounding purulent infiltration, it was supposed that the thrombus in this case was due to arteritis.

The Society then adjourned.

Stated Meeting, February 23, 1870.

Dr. Joseph C. Hutchison, President, in the Chair.

Sudden death from obscure causes.

Dr. Finnell exhibited four specimens, for three of which he was indebted to Dr. Shine, Deputy Coroner.

The first was a heart, taken from a colored woman, forty-five years of age, who, after suffering for two years, subsequent to an attack of rheumatism with pain around the heart, suddenly dropped dead. On making the post-mortem examination, the principal lesion found was an extensive atheroma of the aorta, commencing at the semilunar valves and extending upwards. The ascending aorta was three times its natural thickness, and was much worm-eaten in appearance—at several points the external coat only remaining. The pericardium contained twelve ounces of serous fluid. Death was attributed to disease of the heart. The head had been examined and no lesion of the brain discovered.

Dr. Flint could not understand why death should have occurred as the result of the lesions found.

Dr. Finnell remarked that it was not an unusual circumstance to meet with just such cases, in which, in the absence of any better cause for death, insignificant

lesions of the heart were compelled to offer the explanation. Dr. Wooster Beach, who had given considerable attention to the subject, was of the opinion in common with himself, that there were in the present state of pathological science many unexplained causes for sudden death.

RUPTURE OF ANEURISM IN PERICARDIUM.

A second specimen, by DR. FINNELL, was an aneurism of the aorta, removed from a man aged 26. He had been very intemperate in his habits, and eight years ago suffered from rheumatism. He died suddenly, and on autopsical examination a small aneurismal pouch was discovered which had ruptured itself into the pericardium.

DEATH FROM HEART CLOT.

A third specimen was a uterus, containing a small polypoid growth, from the body of an intemperate woman, fifty years of age. She had drunk in the evening a pint of whiskey, and was found dead the following morning. On post-mortem examination, a large clot of blood was found in the left ventricle of the heart, to which was attributed the immediate cause of death. From the same individual were taken six hundred small gall-stones.

EXTENSIVE GUNSHOT WOUND.

DR. FINNELL presented, lastly, a class of specimens consisting of both lungs, heart, tongue, and a portion of the lower jaw, removed from the body of a woman who was shot by her husband. The first shot, which must have caused almost instant death, passed through the left arm into the left lung, across the aorta, through the right auricle and right lung, and finally lodged in the integument of the right chest. The second shot struck the lower jaw near the symphysis, splintering it; thence through the root of the tongue, lodging in the mastoid process of the opposite temporal bone.

ABSCESS OF OVARIES—PERFORATION OF RECTUM AND PERITONITIS.

DR. FLINT exhibited the uterus and ovaries taken from the body of a woman, aged twenty, who died within an hour after admission into Bellevue Hospital. Under the circumstances, the details of her previous history were very imperfectly obtained. It was ascertained, however, that three weeks before she had been seized with vomiting and diarrhœa, both of which were quite persistent, and that she had kept about until within a week of her admission. On examination, the abdomen was found very tense, but not tender on pressure.

At the autopsy there were evidences of extensive peritonitis in the shape of agglutination of the intestines, etc. The left ovary contained a multilocular cyst of considerable size, which had a free opening into the peritoneal cavity. The right ovary was also much enlarged, likewise contained a cyst which had two openings, one into the abdominal cavity, and the other into the rectum. Dr. Flint supposed the cavities in these ovaries to be the result of abscesses, and he did not think it likely that both would otherwise be perforated, but more especially that one of these communications should be with the rectum.

DR. JACOBI was of the opinion that the cervix uteri presented all the evidences of recent child-birth.

Dr. FLINT remarked that she denied the occurrence of any miscarriage or induced abortion.

DR. JACOBI thought that the process in and around the ovaries was inflammatory in character, as proven by the difference in the length of the Fallopian tubes, the condition of the cervix, and the deposit on the posterior part of the uterus, and the thickening of the right ovary.

DR. FLINT asked if the discharge of an ordinary ovarian cyst would be likely to produce peritonitis.

DR. JANEWAY remarked that this was one of the methods of cure laid down by Spencer Wells.

DR. ROGERS referred to a number of cases of rupture of ovarian cysts causing death, reported some years since by Dr. Lidell in the *American Journal of Medical Sciences*.

DR. CHAMBERLAIN did not see anything in either the uterus or ovaries indicating very recent inflammation.

DR. JACOBI was inclined to concur in this opinion, and did not think it impossible for an abscess in the ovary to remain for a considerable time unruptured.

RELAPSING FEVER.

DR. FLINT also exhibited some part of the body of the patient supposed to have had relapsing fever. He had been invited to attend an autopsy by Dr. Harris, but not having received the invitation in time, he only arrived at the Hospital just as the examination had been concluded. He remarked that it was a matter of regret that the stomach, which contained some interesting appearances, had been replaced in the body. The parts preserved were the large intestine, kidneys, liver, and lungs. The latter were studded with dark points, whether due to extravasations or not could not in the hurry of the examination be determined. He was sorry that he was not able to present more details, particularly as bearing upon the diagnosis. He had only a few moments' conversation with Dr. Harris, who stated that the patient apparently had relapsing fever, that he had what were supposed to be the primary paroxysms after a copious perspiration, was convalescent on the seventh day, and able to sit up and read the newspaper; then there were hemorrhages from different outlets, particularly from the stomach. Coincident with the phenomenon were dark spots under the skin, petechiæ. The stomach, as Dr. F. was told, contained a certain quantity of blood, with an abundance of extravasation. The large intestine, which was exhibited, showed a considerable quantity of blood on the surface of its mucous membrane, underneath which blood was also extravasated. As far as the intestines were concerned, the hemorrhage seemed to be limited to the colon. Both kidneys were enlarged, and the pelvis of one was filled with a clot of blood.

He stated that the specimen was not presented to illustrate the hemorrhagic character of relapsing fever, but the fatal tendency of a discharge of blood from the stomach.

In conclusion, he remarked that the story was that the whole family, of which the patient was the head, had taken the fever, and all, five in number, had died. This remarkable mortality, in the absence of the necessary details, threw a cloud of doubt upon the diagnosis. This family had been suddenly reduced from opulence to poverty, a transition which favored the ingress of any of the low-bred fevers.

THE CAUSE OF SUDDEN DEATH DURING CONVALESCENCE FROM PNEUMONIA.

DR. LOOMIS exhibited a specimen taken from a Swedish sailor, aged 28, who had been admitted into Bellevue Hospital on the second day of February. Three days before his entrance he was seized with a sharp chill, followed by constriction about the chest, some difficulty of breathing, some pain in the side, with cough, slight expectoration, and fever. These symptoms grew worse up to the time of his admission, and when received there his temperature was 103½°, and

his pulse 100. He gave the characteristic sputum of pneumonia, and physical examination detected its existence at the apex of the right lung. On the two following days his temperature was up to 104°, and pulse a little over 100. On the third day his temperature fell to 99°, and his pulse was about 80. His expectoration changed, his dyspnœa was relieved, his respirations decreased in frequency, and he was fairly convalescent. He had not been regarded as severely ill at any time. His convalescence was rapid and satisfactory, and he was soon up and around the ward. On the fourth of February, twelve days after admission, he suddenly died. About an hour before his death he was seen by the House Physician, and to all appearances he was as well as he had been some days previous. The urgent symptoms came on fifteen minutes before death, and before the House Physician could reach him he was pulseless. It seemed as though he was paralyzed on the right side. His countenance was not flushed, but his face was pale and his respiration gasping. No heart disease had been detected during his stay in the hospital.

The autopsy was made twenty-four hours after death. In one of the branches of the middle cerebral arteries was found a plug. The other portions of the brain were healthy. In each of the coronary arteries of the heart was a firm plug, one of which seemed to be continuous with a thrombus lying just above the aortic valves, the size of a hickory nut. The lungs were congested and œdematous, the right firmly bound down with pleuritic adhesions. The liver and spleen, as well as kidneys, were healthy, except one of the latter, imbedded in the substance of which were small yellow deposits.

Here, then, was a sudden death during convalescence from pneumonia, and the question was as to the cause. The occurrence was not very infrequent. Dr. L. believed that in these cases an œdematous and congested condition of the lungs was found, almost without exception, confined to parts not previously involved in the inflammatory process. Besides this condition the heart was impeded in its action by the presence of thrombi, giving rise probably to an almost complete obstruction at the aortic orifice. He believed that Dr. Flint regarded heart clots as not unfrequently a cause of sudden death in pneumonia. The left ventricle of the heart was not distended, and contained only a little fluid blood, but no clots. The patient had not been much reduced.

Dr. Flint thought that the problem of discovering the causes of death in such cases was very often a difficult one. Had not the sudden plugging of the arteries in this case something to do with it? Then again, might not the thrombi cause enough of obstruction to allow of sufficient accumulation of blood in the ventricle to create paralysis from over-distention? He believed that sometimes heart clots formed in the right ventricle, and were very often the cause of speedy death.

Dr. Janeway related the case of a patient at the almshouse who, last week, while convalescing from pneumonia, walked without permission a distance of a hundred yards towards the Penitentiary, and suddenly dropped down dead. On post-mortem examination the lower lobe of the left lung was found the seat of gray hepatization, and the rest of the lungs œdematous. The right heart contained a considerable-sized black clot. It seemed that in this case the œdematous and congested portions of the sound lung accounted for death. The brain had been examined and found healthy.

In answer to a question as to his patient, Dr. Loomis replied that the heart had been examined during life and no disease discovered.

Dr. Jacobi asked if death could not be explained in a different way, especially in such cases as the one related by Dr. Janeway. At all events the patient had been very much reduced, had gray hepatization and a good deal of collateral œdema in the lungs, and in all probability it had been a great effort for him to walk as far as he did. He thought we had a right to assume that the patient died in syncope. He remembered to have lost a case in just that way. A patient, fifty years old, with bilateral pneumonia, was improving, but was forbidden to get up. One day, instead of waiting for his nurse, this man walked to an adjoining room, had a passage from his bowels, and before he could get to his bed again, dropped dead. He remembered distinctly also two cases which were of children, during an attack of pneumonia, that fainted and died on being imprudently lifted out of bed. The cause for death in such cases seemed to be a sudden anæmia of the brain.

Dr. Loomis, in view of the possibility of sudden death, was always particular in keeping the patients in bed until convalescence was completed. Especially was this the case when there were evidences of œdema of the opposite lung.

Dr. Flint had no doubt that the rule was a good one, but as each rule had its exception, he would mention a case in point: While attending the Charity Hospital, N. O., he had a patient with pneumonia, who in a fit of delirium escaped from the institution without any clothing save his night-shirt, and walked a distance of two miles to his place of residence. He was brought back the next morning in a state of sanity, and from that time made a rapid recovery.

PERFORATING ULCER OF STOMACH.

Dr. Janeway exhibited, on behalf of Dr. Cushman, a perforating ulcer of the stomach, taken from a servant girl twenty-two years of age, who had been complaining for about a year with symptoms of dyspepsia, attended with vomiting and a localized pain a little to the left of the epigastrium coming on after eating. She was able to work until the day of her death, when, shortly after eating her dinner, she was seized with the symptoms of peritonitis, and died the following day at four o'clock.

The autopsy disclosed general peritonitis, caused by the escape of the contents of the stomach into the peritoneum. On the anterior surface of the organ, a little nearer the œsophageal than the pyloric orifice, and equidistant between the greater and lesser curvature, was found a round ulcer, an inch in diameter, smooth for the most part, except at its pyloric border, and adherent to the abdominal wall. The mucous membrane around the ulcer was slightly thickened. On the posterior surface of the organ, and almost opposite the perforation, a puckering of the peritoneal coat marked the site of a former ulceration that had healed. The former ulceration had been adherent some little time, and it was the giving way of the adhesion rather than the direct perforation that caused death. The patient had never at any time vomited blood.

LATENT BRONCHO-PNEUMONIA.

Dr. Lewis Smith exhibited the lungs and heart taken from an infant who died at the age of four months. When two months and a half old he had a severe attack of broncho-pneumonia, with all the usual symptoms, and after ten days appeared to be convalescent. A slight cough and acceleration of the respiration continued, however, eight or ten days after the commence-

ment of the improvement; the temperature was ninety-eight and a fraction, and the pulse was 124. Not much attention was given to the infant, as it was supposed to be out of danger, until the 21st of February, when it was observed to be sinking. It died very soon after, without any other diagnosis than that of bronchopneumonia being made.

On making the post-mortem examination, a moderate amount of colitis was found. The entire lower lobe of the right lung, with the exception of a very small point on the anterior margin, was in the second stage of pneumonia, as also the posterior half of the upper lobe and the posterior third of the lower lobe of the left lung. The point of interest was the latency of the pneumonia, the disease during all the time not progressing beyond the stage of red hepatization. Dr. Smith believed that in infants of that age the duration of the second stage was much longer than ordinarily supposed. The question also came up, whether it was a catarrhal or croupous form of the disease. He was inclined, from the granular and fatty character of the cells, to believe that it was of the former variety.

Dr. Jacobi concurred in that opinion, but did not see how it was possible, with the condition of cellular elements described, it could remain for so long a time latent. He could not alter such a view unless Dr. Smith had examined the patient within a week or so of his death.

DEATH FROM FATTY HEART.

Dr. Jacobi presented a heart removed by Dr. Wooster Beach, jr., from the body of a carpenter, forty-five years of age, who, while sawing a board, felt something give way about his heart, was faint immediately after, and before a physician could arrive, was dead. At the autopsy the valves were found healthy. The aorta was very much thickened, its lining membrane being covered at some points with yellowish-white prominences, and in other places with little indentations, evidently the result of a previous endo-arteritis. Directly over the semilunar valves, in the neighborhood of the pulmonary artery, was an aneurismal sac, hard to the feel, of a reddish color, similar to that of the heart substance itself. Right over the semilunar valves was a slit which communicated with this sac. It appeared that the aneurism was of the unusual variety known as the cystic saccated. Inside of it was a small layer of fibrine, which was discolored, showing that it had been deposited slowly and gradually. In all probability the cause of death was not in the aneurism, but in an intensely fatty heart, which at the particular time referred to became paralyzed from over-exertion.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Adjourned Stated Meeting, Feb. 21, 1870.

Dr. George T. Elliot, President, in the Chair.

PATHOLOGY OF ECZEMA.

Dr. Foster Swift read an elaborate paper upon this subject, for which we must refer our readers to the *Journal of Dermatology* for April.

Dr. Boeck had often found benefit from the administration of iron in the first stage of eczema, the affection being frequently attended by anæmia. In the latter stages of obstinate general eczema, he had found a perfectly dry treatment of great value, avoiding baths, which were apt to aggravate the trouble. Of all the ointments, he preferred those made from pitch, of which the less irritant kinds should be selected. General eczema was often accompanied by visceral diseases, for which he always made careful examination. He had found renal disorders in this connection, and the post-mortem had sometimes revealed cancer of the uterus, unsuspected by the patient during life.

Dr. W. H. Draper had found the paper so exhaustive upon the pathological anatomy of the disease, that the only topics left open for discussion were the ætiology and the treatment. As to the first, it seemed to him that we were too much inclined, at the present day, to look upon eczema as a purely local affection, requiring only local treatment. He had been much struck with Dr. Boeck's remark about its frequent association with internal disorders. He thought we often also found it associated with diathetic disorders—for example, the gouty or rheumatic. Its connection with gout, both in acute and in chronic cases, he had very often observed. In this affection we had, of course, acting through the capillary circulation of the skin, the same materies morbi which we found acting through that of other organs, and producing irritations that manifested themselves by skin-affections well recognized. This view of the ætiology was supported by the marked success which would sometimes follow its recognition, as a guide to the treatment of cases of eczema which obstinately refused to yield to local treatment alone. As soon as we began an anti-arthritic regimen, whether medicinal or hygienic, the skin-affection would begin to improve.

Dr. Haight thought that the subject of the diathetic origin of skin diseases was still very much in the dark, and that little light had been shed upon it by the French apostles of the doctrine. Observations on a large scale showed the percentage of patients suffering from both gout and eczema to be quite small; and out of three hundred cases of well marked eczema in the Hospital of Vienna, less than seventy showed any taint of scrofula.

The plan of treatment introduced by Hardy, and employed more extensively by Hebra—that of covering the surface with india-rubber—had been attended with excellent results, and Hebra regarded it as at least an invaluable adjuvant. It had the advantage of such simplicity that it could be left in the hands of the patient himself, requiring only cleanliness. It was, moreover, applicable to all stages of the affection, and therein possessed a marked superiority over the complicated treatment of the German school. For example, the tarry applications, so highly commended, he had heard much abused in England, the reason being that they were used at the wrong stage. For tar might be as harmful as helpful in eczema, unless rightly employed.

Of the "impetigo contagiosa," of Dr. Tilbury Fox, he had seen several examples. It was not to be regarded as true eczema, though it began with a vesicle, almost a bulla, surrounded with scarcely any areola. It was certainly contagious, and it was very amenable to treatment.

Dr. R. W. Taylor had, under Dr. Draper's direction, examined many cases of eczema with a view to their ætiology. He had found abundant in the urine the products of incomplete oxidation, uric acid, the urates, oxalate of lime, etc.; and when oxidizing agents, such as chlorate of potassa and nitric acid, were given, their effect on the skin-disease was remarkable. A dispensary patient with severe eczema, and also gouty symptoms, showed uric acid both in the urine and in the blood. If these cases were carefully examined with reference to their antecedents, as well as to their present condition, they would no doubt afford much support to the diathetic doctrine in the modified form held by Dr. Draper, though perhaps not to the extreme views of Bazin and his followers.

Dr. Piffard had at first been unprepared to give any credence to Bazin's theory of the arthritic diathesis; but he had since made careful inquiries of his patients, and found a history of gout or rheumatism in a large proportion of cases, while, in some, concomitant cardiac affections gave further proof of the diathesis. But it was very difficult to decide, from the obscure statements of a patient about his pains, etc., whether or not he had suffered from a gouty or rheumatic tendency. Similarly the connection of eczema with scrofula was apt to be obscured; for commonly there was no marked evidence of scrofula, except in the sluggishness of the eruption and of the circulation. In children the immediate cause was generally found to be some disorder of the digestive organs, whether or not this accounted for the tendency to the disease. In those at the breast, the first signs of extensive eczema were often clearly traceable to a change of diet; and if suitable breast-milk could be procured, the eruption would very likely disappear of itself. If good milk could not be obtained, cod-liver oil was better for these infants than arsenic or other medicines.

As to the pathological anatomy, the day of the vesicle was evidently past. Milton now claimed that vesicles never occur in eczema, basing his assertion upon the examination of many thousands of cases, in which he had failed to discover one. The speaker had inquired of many dermatologists upon this point, and had not found any who had ever seen an eczematous vesicle. You would often get pseudo-vesicles. From the application of caustic potassa you might get little droplets of serum upon the surface; but touch them with a needle, and the fluid would cling to the needle with no rupture of the epidermis. He had watched these cases with a magnifying glass from hour to hour, and had found but one instance of true vesicles accompanying eczema—except in cases of itch, where you might have eczema as a concomitant, and where the vesicles probably belonged to the itch.

Dr. Henry had, in several instances, observed gout and eczema in the same persons. He had also, and especially among the poorer classes, found the strumous diathesis much more frequently associated with eczema than would appear from the tables quoted by Dr. Haight. He wished to give Dr. Swift the credit of having first brought the india-rubber treatment to the notice of the profession in this country.

Dr. Draper would not be understood as advocating the diathetic pathology in a partisan way; but he thought it important to recognize the principle, and in two of the diatheses at least—the gouty and the syphilitic—we could hardly fail to do so. The scrofulous diathesis had been mentioned as not discoverable in a large number of cases of eczema examined by Hebra. Probably no one could at present tell exactly what was meant by the scrofulous diathesis, although all recognized it in an indefinite way, as demanding a certain treatment. With syphilis the case was different. Here we had a poison which, though not yet isolated, we knew to be specific, and which certainly produced some wonderful affections of the skin. So with regard to gout—we knew it was due to urate of soda, and this we could find deposited in and about the joints. Although the pathological anatomy of eczema had, as he before remarked, been exhausted by Dr. Swift, yet we might seek to go a step behind the microscope. The affection was unquestionably a dermatitis, but what produces the dermatitis was the question that concerned us as practitioners. We all recognized certain local causes, and knew the importance of striving to find these in each individual case; but failing in this, we must search for the constitutional cause.

The President spoke of a lady patient who had long been wont to cure eczema on her fingers by wearing an india-rubber glove.

Upon motion of Dr. Hammond, a committee of three was appointed to inquire into the merits of a statue of Harvey, by Dr. Horatio Stone, and report upon the expediency of recommending that a bronze copy of the same be placed in Central Park. The President appointed Drs. Hammond, James R. Wood, and Bibbins.

The Society adjourned.

Correspondence.

GLYCERINE ADHESIVE PLASTER.

To the Editor of the Medical Record.

Sir—The manufacturer of "Tallman's Glycerine Adhesive Plaster" has had the impudence to send me a roll of his plaster, with a circular containing his advertisement. The reference to myself as having recommended his plaster in my Treatise on Military Surgery contains a falsehood which I am not willing should pass unnoticed. In the circular I am quoted as saying:

"As an adhesive plaster the surgeon will need on the field Tallman's Glycerine Adhesive Plaster, which does not require the aid of heat in its application, but only needs to be moistened slightly upon one surface."—*Treatise on Military Surgery, by Frank Hastings Hamilton, M.D.*

What I said was: "As an adhesive plaster the surgeon will need, when on the field, either Tallman's or Husband's isinglass plaster, neither of which require the aid of heat."

This was in my first edition. In my second I spoke only of isinglass plaster, mentioning the names of no manufacturers. The truth was I found Husband's the best; but I believe there are many other manufacturers who make equally good plaster.

I wish my professional brethren would rebuke this rascally practice of using our names falsely, or without authority, by refusing to purchase the articles they advertise.

Incidentally I may say that the assumption that it is any more "soothing" because it contains glycerine is simply absurd.

The man Tallman, who has thus shamefully misquoted my language, lives at Janesville, Wis.

Very truly yours,
FRANK H. HAMILTON.

Extraction of a Needle.—A child (*Chicago Medical Examiner*) was suddenly seized with violent coughs, choking and dyspnœa, which lasted several hours, after which she breathed naturally. In about six months she complained that something hurt her back. On examination, what seemed a small pin was discovered just below the inferior angle of the right scapula, pointing externally. It disappeared and reappeared several times. A few months after, it was decided to remove the substance, when, on cutting down upon it, the pointed end of a needle about eight lines in length was extracted. There was no suppuration before or after the operation.

Placenta Prævia.—This complication is variously estimated by different authorities to occur from 1 in 500 to 1 in 1,000 cases. The average statistics, from various sources, give as the result, 1 in 3 of the mothers, and over one-half of the children lost.—*Trans. Ill. Med. Society.*

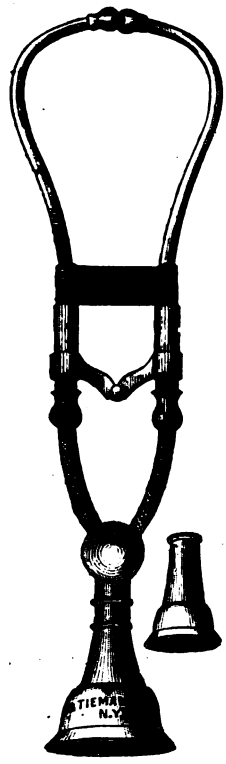
New Instruments.

IMPROVEMENT OF CAMMANN'S STETHOSCOPE.

By THOMAS G. SNELLING, M.D.,

NEW YORK.

For the past four years I have been in the habit of employing a modification of my own of Cammann's stethoscope, which, in cases where much accuracy is required, as in an examination in consultation of heart or lungs, or where it is desired to precisely locate a morbid sound, or in chests which are much emaciated, I have found to be a very great advantage. It can also be used indifferently upon Cammann's stethoscope or upon the ordinary flexible tube instrument.



It consists simply of an india-rubber rim attached to, and acting as a continuation of the rim or lip of the ordinary mouth of the stethoscope, by which, even by the most gentle pressure, all air is excluded by the elastic expansion of the india-rubber rim.

Its advantage will be evident at a glance in auscultation over the carotids, where the pressure made by the ordinary unshielded lip of the instrument must cause an adventitious murmur; over the jugulars for venous murmur, over or under the clavicle when a patient is so thin as to preclude the complete adjustment of the ordinary instrument to the exclusion of the air; in patients so emaciated as to make it impossible to apply the sounding tube upon or between the ribs, and where it is desirable to locate a cardiac murmur over one or another valve.

Prof. Flint informs me that he regards it as a real and valuable improvement, and recommends it to the use of his class. Its advantages will be abundantly evident on trial. The following is a representation of it applied to the larger tube of Cammann's stethoscope. The instrument is made by Tiemann & Co. of New York.

72 Madison Av., N. Y.

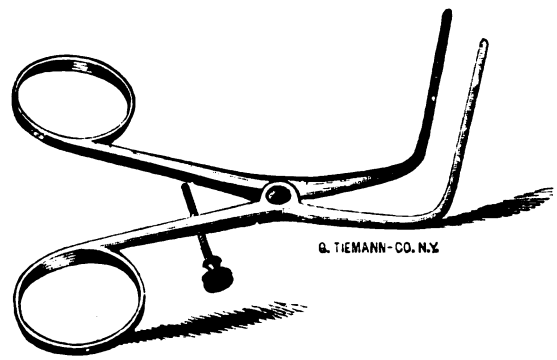
ON THE TREATMENT OF ACCIDENTAL PHIMOSIS BY RUPTURING THE MUCOUS MEMBRANE OF THE PREPUCE.

By J. C. HUTCHISON, M.D.,

SURGEON TO THE BROOKLYN CITY HOSPITAL, PRESIDENT OF THE NEW YORK PATHOLOGICAL SOCIETY, ETC.

Some years ago a child was brought to my surgical clinique to be treated for congenital phimosis. On retracting the foreskin to ascertain the size of the preputial opening, it occurred to me that by applying considerable force with the thumb and fore-finger, the mucous layer, which is the seat of the constriction, might be ruptured, and the skin retracted behind the corona glandis. This was accordingly done, and the mother was directed to retract the prepuce behind the corona several times a day until the rent had healed. The child was not presented again, and what the ultimate result was I am unable to say. This operation is not presented as a proper one for *congenital* phimosis. Such cases should be circumcised. But it suggested that in cases of *accidental* phimosis, the result of thickening or contraction of the prepuce after balanitis or the cicatrization of a chancroid, dilatation might be easily and safely effected by means of the forceps described below. The operation is analogous to that proposed by Mr. Barnard Holt for the treatment of stricture of the urethra by splitting the stricture.

The instrument by which this simple process is accomplished consists of a pair of forceps, of which the upper part of the blades, an inch and an eighth in length and one-eighth of an inch wide when closed, is set at a right angle to the lower part, the outer edges and points being well rounded and smooth, so as not to injure the mucous membrane. There is also a screw which regulates the distance to which the blades may be expanded. When fully opened they are separated an inch and three-quarters (*see illustration*). I have



heretofore in my operations expanded the blades to their full extent, but this may not be necessary in all cases.

The operation consists in introducing the blades of the forceps closed through the preputial opening and along the dorsum of the glans penis as far as the corona. They are then suddenly expanded, and withdrawn fully dilated. The prepuce can at once be retracted behind the corona glandis, when it will be found that the mucous membrane has been split at the seat of stricture, the skin being uninjured unless the phimosis has been produced by a cicatrix at the preputial orifice, which existed in one of my cases, and was ruptured. The patient is now directed to retract the prepuce behind the glans several times a day, especially during micturition, both in order to prevent the contact of the urine with the wound, and also the too rapid union of the ruptured edges, which would reproduce the disease. The patient should be cautioned not to leave the foreskin retracted behind the glans, for swelling might occur to such a degree as to cause paraphimosis. This indeed happened in one case at the Brooklyn City Hospital which was operated upon by House Surgeon H. T. Pierce. The prepuce was drawn forward by the usual manipulations, aided by ether spray thrown upon the glans by Richardson's atomizer, to diminish the size of the organ. This operation should not be practised when chancroids are present, for fear of inoculation, nor until sufficient time has elapsed for the phimosis to disappear spontaneously.

The above operation has now been repeated nine times by myself and House Surgeon H. T. Pierce with the most satisfactory results. It will be found, I think, to possess the following advantages over the methods of treatment ordinarily practised:

1st. It is preferable to circumcision, or slitting up the prepuce, because it is simpler, is done more quickly, and there is no hemorrhage requiring the use of hemostatic agents. But when the prepuce is much diseased circumcision should be preferred.

2d. It is better than simple dilatation by means of Thompson's urethral dilator, as suggested by Mr. Erichsen, because the contraction is less likely to recur after rupture than after dilatation.

3d. It is preferable to simple division of the mucous layer of the prepuce, which is done by thrusting one blade of a sharp pair of scissors between the layers of the prepuce while the other is carried along the dorsum of the glans penis so as to divide the mucous membrane to the corona glandis, because there is less danger of a reproduction of the disease after a rupture than after an incised wound.

This last operation was first proposed by my friend, Dr. Edward Peace, lately Surgeon to the Pennsylvania Hospital, and I am informed that it is still practised in that institution.*

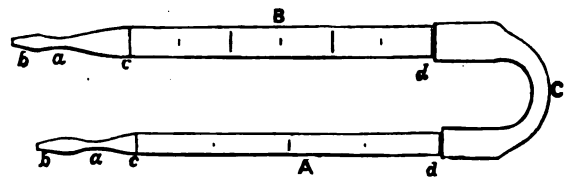
A NEW HYPODERMIC SYRINGE.

By J. H. BILL, M.D.,

SURGEON, U. S. ARMY.

An improvement in the hypodermic syringe in ordinary use may at first seem to many a work of supererogation. The writer, thinking it an important matter in practical medicine, begs leave to present his views.

The hypodermic injection of remedies, especially of the neurotics, has of late years been almost universally adopted by the profession; for besides the convenience of application and the promptness with which it may be brought to bear, there is the fact that by its use we become quite independent of gastric irritability. Moreover, the hypnotics at least seem to possess more power, and especially more of that kind of power which we wish in an hypnotic, with less of the injurious unsought-for effects when given hypodermically than when swallowed. The method is undoubtedly still gaining favor, and receiving new applications. And yet what discrepancies as to effects, doses, etc., exist!—one habitually using the twentieth of a grain of atropia, another finding the fortieth dangerous; some arguing that remedies will act in smaller doses, others that larger doses are required, hypodermically. The writer believes that one reason for this lies in certain imperfections of the instrument. Another reason is the indefinite way in which writers have recorded their experience of its use and effects. As to the instrument, the writer is sure that he owed most of his doubts and fears to its imperfection. The first syringe he used was made of glass, with silver caps on top and bottom, the piston-rod being of silver, and having worked on it a screw provided with a nut by which was regulated the quantity of liquid to be injected. In a case of traumatic delirium, in which a quarter, then a half, and finally three-quarters of a grain of morphia (of course at suitable intervals), were given, at first without effect, afterwards, after the last dose, profound coma came on from which the patient was aroused with some difficulty, the writer was greatly perplexed, for if the cause for such inequality of action could not be discovered and prevented, the method itself was unsafe. Frequently, too, it would happen that one-fourth of a grain of morphia would produce no effect; usually, however, this quantity was all that was required. The solutions were examined, and, being found full of cryptogams, new ones were employed; but still the erratic power of the method was experienced. To be sure this did not last long, for, using the syringe one day, in broad daylight, it was discovered that although some of the liquid went under the skin, most of it ran over the skin, for the syringe leaked at the junction of the glass and lower silver cap. Melting the cement merely temporized; the instrument presently leaked as badly as ever. Moreover, one end of the glass cylinder being a little larger than the other, the piston would at first move with difficulty, and on applying more force, as the larger end of the cylinder was reached, the piston would fly up with a jerk. It was evident that with this instrument there would always be uncertainty, and although beautifully made, by one of the best cutlers in Philadelphia, it was laid aside. A gutta-percha syringe, from the shop of a celebrated New York cutler, was next used. It worked very well for a while, but on one occasion, failing entirely to get the expected effect from a full dose of morphia, it was discovered that instead of injecting the liquid into the patient's cellular tissue the piston had gone through the liquid in the cylinder, allowing this to occupy the upper part of the latter. After arranging the packing of the piston, on introducing this into the cylinder the piston-rod broke off short close to the piston. This compelled the writer to construct a new instrument. So much has been written as apology for writing at all about hypodermic injections. His device for effecting hypodermic injections, at first the result of necessity, has now become with the writer a matter of choice. The advantages claimed



are: 1st, Strength, efficiency, and absence of leaks. 2d, Cheapness and simplicity; it can be made by any one. 3d. Graduation into minims and not into indefinite quantities. The instrument employed is represented half size. Two heavy fusible glass-tubes are connected by rubber tubing, the smaller tube having a calibre of $\frac{3}{16}$, the larger of $\frac{1}{4}$ in. or a little less. The ends of both tubes are drawn out in the flame of an alcohol lamp into necks *a*, which, however, gradually swell into shoulders of a diameter somewhat less than that of the tube, which shoulders again taper off conically into points *b*. To graduate these tubes, drop a little water into them, sufficient to reach about to *c*, at which place a slight scratch with a flint or *round* file should be made; counterpoise on a rather delicate scales, then fill up the tube with water at 62° F. until A weighs 19 grains and B weighs 28·5 grains (the former will have received twenty, the latter thirty minims of water). Place the tubes upright, and mark with a second scratch, *d*, the height of the liquid. Then divide A between *c* and *d* into four parts, and B between *c* and *d* into six parts. Roughen the points of

* Since the above was written, *Braithwaite's Retrospect* for Jan., 1870, has come to hand, and I find that it contains an account (from the *Dublin Quarterly Journal*, Nov. 1869) of an operation identical with the one described above, with a similar instrument, by Dr. F. B. Cruise, of Dublin. My first operation with an instrument was done on a medical friend, August 1st, 1869. My instrument was shown by Dr. Stein at the New York Medical Journal Association, Dec. 3d, 1869. (See MEDICAL RECORD, Jan. 1st, p. 503.)

both tubes with a flat file, and, finally, file away the closed extremity until an orifice is obtained the size of a pin. Connect the two tubes by the rubber c, and the apparatus is ready for use. The ordinary hypodermic points without screws may be employed, although a fine exploring canula is better, for with the latter it is always possible to avoid wounding a vein. Thus: Pass the triangular point of the trocar through the skin pinched up, engage the tips of the canula in the orifice so made, withdraw the trocar, and pass the canula on into the cellular tissue. If using a solution of morphia or strychnia, dip the end of the smaller tube into this, and, holding the smaller end of the larger tube between the lips, apply suction until the liquid rises in the small tube to *d* or perhaps a little above this. Apply the tip of the tongue to the end of the tube held by the lips, and carry the whole instrument in this way to the patient. Insert the end *b* of A into the mouth of the hypodermic point, applying the two firmly against one another, and then gently blow the liquid in A through the hypodermic point into the cellular tissue until the line at *c* is reached. The point is then removed. Thus no air can be blown into the tissue, for there is always the liquid from *c* to *b* left in the tube, whilst the operator can be sure that twenty minims have been injected under the skin. The operation requires the exercise of considerable force by the buccal muscles. A small bit of fine rubber tubing fastened to the mouth of the hypodermic point and clasping tightly the shoulder and neck of the glass tube, when this is thrust into the open mouth of the hypodermic point, is an improvement. The large tube B is intended for injections of quinia, fluid extracts, etc. Particular attention is called to the fact that by this apparatus we inject a certain number of *minims* of liquid; thus it is easy to obtain from any apothecary, by an ordinary prescription, the liquids of the strength required.

The writer has found the following formulæ the most convenient:

Atropized Morphia.

Take of Sulphate of morphia, grs. xij.
Sulphate of atropia, gr. ½.
Water, f ℥ iss.
Dose, M xv. = ¼ gr. morphia, $\frac{1}{96}$ gr. atropia.

Atropia.

Take of Sulphate of atropia, gr. j.
Water, f ℥ ij.
Dose, M xv. = $\frac{1}{64}$ gr. atropia.

Morphia.

Take of Sulphate of morphia, gr. xij.
Water, f ℥ iss.
Dose, M xv. = ¼ gr. morphia.

Quinia.

Take of Quinia, grs. 200.
Ether, a sufficiency.
Dissolve the quinia in the ether and evaporate to 600 M.

The writer uses a hypodermic case, which he finds very convenient. A block of fine-grained wood is selected. This is six inches long, one inch thick, and two and a half inches high. By a fine saw this is split down the middle in the direction of its length. In the bottom piece so obtained, five holes are bored, not quite through the bottom of the lower piece. Into these fit accurately five stoppered bottles. The fifth bottle is filled with glycerine, and is fitted with a cork through which pass the hypodermic points into the glycerine; they are thus kept ready for use. The top piece is scooped out with gouge and chisel and room is thus made for the stoppers of the bottles, whilst ample space is left for the hypodermic pipette, as it may be called; hinges added at one end, and an india-rubber band towards the other, complete the arrangement.

This communication cannot better be closed than by calling attention to the expediency of recognizing in the U. S. Pharmacopœia for 1870 formulæ for hypodermic injections. The giving of morphia by the mouth ought to be discouraged, save as an exceptional thing. Morphia is a dangerous remedy, especially when exhibited (as it is by the majority of country practitioners) —*by the pinch*. Hypodermy makes accuracy easy as well as compulsory. When long-continued use of morphia is required, the danger of the habit of opium-eating will be avoided if we inject the opiate. These solutions are apt to be infested with cryptogams, to prevent which, boil the solutions when first made, and put them away carefully stopped, not corked. Phenol in reasonable quantity will not prevent the formation of these growths. The sulphates are the most eligible salts, but only because they can be got purest. Particularly unsuitable for hypodermic injection is the so-called unbleached morphia, *i.e.* morphia containing a variable quantity of dark, gummy, and resinous matters, which will make turbid solutions. There is one thing more. With the hypodermic pipette it is impossible to introduce a liquid save into the cellular tissue, unless one should be so careless as to open a superficial joint. If it is found impossible to make the liquid flow, it may be understood that a wrong spot has been selected. Thus it is not easy to make an injection over the platysma in some subjects, as this muscle has strong attachments to the skin. The outer edge of the deltoid will usually be found the most convenient spot; so also any spot situated over the ribs, when these are not covered with much muscle. The injection will begin to show its effects in fifteen minutes, and in half an hour it may be repeated, if it was at first without effect.

Fort Vancouver, W. T.
Jan. 30, 1870.

Medical Items and News.

Dr. Samuel Peters, of Crescent, Saratoga Co., N. Y., was the author of "Chlorate of Potassa in Serous Effusions," presented to the State Society, erroneously credited to "*Dr. J. C. Peters, of New York.*"

Breast Drawing.—In a late meeting of the *Boston Obstetrical Society*, Dr. Reynolds stated that, with most nipples, he thought the best way of drawing the breast was to use Thier's pump; called the "Téterelle Thier." —*Boston Med. and Surg. Jour.*

Imperial Honors to Dr. Ricord.—This distinguished Syphilographer has been made, like Nélaton, a Senator. The Emperor, during his late illness, gave M. Ricord a gold snuff-box ornamented with diamonds, worth 20,000 francs.

A New Application to Ulcerated Surfaces.—Dr. Richardson, of London (*Boston Med. and Surg. Journal*), advocates the solution of xyloidine and tannin in ether, as an application to ulcerated and raw surfaces. It acts as an antiseptic by reason of the tannin it contains.

Teratology.—To Stephen and I. G. St. Hilaire is given the credit of having founded this science, at the end of the first quarter of the present century.

A Large Number of Cases of Midwifery.—The late Dr. Hooker, East Cambridge, Mass., in forty years tended eight thousand cases of midwifery.

Death of Dr. George C. M. Roberts.—Dr. Roberts, Emeritus Professor of Obstetrics and Diseases of Women and Children in Washington University, Baltimore, M.D., died in January last.

The Fatality of Tetanus.—The fatality is least in tropical climates. In the West Indian war, 43 per cent. recovered; 7·4 was the percentage in the American war, and Prof. Busch, of Bonn, saved 33⅓ per cent. during the Bohemian war.

Prof. Liebig's Soup.—One ounce of ox-marrow, ½ gallon of water, a sufficient quantity of vegetables—carrots, celery, cabbage, etc.,—boil for one hour and a quarter, then add 5 drachms Liebig's *meat extract*, and salt q. s. This is sufficient for seven persons.

Pruritus Pudendi.—The treatment of this troublesome affection is sufficiently various. Dr. Elleaume, of France, uses injections of a watery solution of starch, and powders the vagina with starch, having one-eighth of its weight of nitrate of bismuth added to it. M. Hartman uses a decoction of white hellebore as an injection. Trousseau recommends a lotion of one part of carbonate of potassa in twelve of water, and where that fails, a weak spirituous lotion containing a little corrosive sublimate. Dr. Storer prefers an ointment containing hydrocyanic acid and acetate of lead; but he finds it necessary to adapt the treatment to each individual case. An ointment containing two grains of acetate of morphia and one drachm of glycerine to an ounce of cold cream or simple cerate will often give great relief.

A Substitute for the Platinum-Still.—M. Cotelle (*The Pharmacist*) has invented a cheap substitute for the platinum-still used in distillation of sulphuric acid. It consists of a stone tower, into which the acid drops in small quantities, while a current of hot air enters at the bottom and drives over the acid, which is condensed in the usual way.

The Increase and Decrease of Starch in Potatoes.—During the storing of potatoes in the cellar, up to January, the amount of starch is increased; towards spring it diminishes, on account of the change into glucose and dextrine.—*The Pharmacist.*

Napoleon's Disease.—Nélaton calls Napoleon's malady *vesical hemorrhoids.*

Herpes in Children.—Dr. Erasmus Wilson (*Jour. of Cutaneous Medicine*) states that herpes is not common in infancy, and he does not remember to have met with an example in an infant under twelve months old. Dr. L. Thomas, in the *Archiv der Heilkunde*, reports an instance of this disease in an infant only ten months old, the seat of the eruption being the right buttock, the thigh, leg, and foot. Von Barensprung regarded the affection as not uncommon in children, and mentions its occurrence between the ages of eighteen months and five years.

Lunatics, Idiots, and Cretins in France.—A splendid volume, issued from the Statistical Department of France, gives for 1866 the results of investigation into the psychological condition of the country. The lunatics number 50,726, or 133 for each 100,000 inhabitants. Of this number 63 per cent. are treated in asylums. The proportion of the sexes is 91 men to 100 women. In the department of the Seine, however, the ratio rises from 133 to 239, in Seine and Oise to 299.

Idiots and cretins count 39,953, or 105 per 100,000 inhabitants. The proportion of the sexes is inverse to that of lunatics, 132 men suffering from these forms of lunacy to 100 women. Almost the whole of this class remain with their families, not more than 1,500 being confined in asylums.

Chair of Dermatology in the Royal College of Surgeons of England.—The Council of Surgeons have conferred upon Dr. Erasmus Wilson, F.R.S, the appointment of Professor of Dermatology in the Royal College of Surgeons.

The Number of Druggists in Dublin. There are only 42 retail druggists in Dublin—one to each 7,000 inhabitants.

Alcohol from Iceland Moss.—A method has been discovered of producing alcohol from Iceland moss by M. Sternberg, of Stockholm. A company is being organized in Sweden for the manufacture of this spirit on a large scale.

Does Chloroform Influence the Rate of Mortality after Operations?—Simpson believes that mortality has lessened since the introduction of chloroform. According to the figures of J. Arnott, it has increased in amputations by 12, and in lithotomy by 28 per cent. Mr. Erichsen is inclined to think that the rate of mortality has increased since the use of chloroform in operative surgery. When the nervous power is enfeebled, or the blood in an unhealthy state, undoubtedly Mr. E. is right when he says, chloroform does exercise a noxious influence on the constitution and lessens the prospect of recovery.

A Case of Elephantiasis of the Leg Cured.—Dr. Arthur Mehern Norton (*Trans. of Clinical Soc. of London*) publishes a case of *Elephantiasis of the Leg*, of ten years' standing, cured in ten months by the application of a tight bandage.

Diminution of Weight in Man during the Cold Months.—Mr. Milner, of Wakefield (*Am. Jour. of Med. Sciences*), some years since performed a series of experiments with a view of determining the periodical fluctuations in weight, substance, and form, which the whole body undergoes. He weighed every prisoner upon his entrance into the convict establishment at Wakefield, and subsequently at the end of every calendar month, all of them being subjected to similar conditions of temperature, food, exercise, and ventilation. The number of men weighed exceeded 4,000, and the total number of individual weighings was 44,004. From his experiments it was found that there was a progressive loss of weight in January, February, and March, and a gain in April, May, June, July, and August, and a loss in September, October, November, and December; or, in other words, an increase of weight during the hot months, and a diminution during the cold. These results are in accordance with physiological truth, for Dr. G. Smith has shown that the quantity of carbonic acid exhaled in winter is largely in excess of that given out in summer, and the sudden weight in April is found to correspond with an equally abrupt diminution in the quantity of carbonic acid expired.

An Adaptation of the Reflecting Mirror to the Uterine Speculum.—Dr. Sedgwick, of London (*Am. Jour. of Med. Sciences*), recently exhibited to *St. Andrew's Med. Graduates Association* an adaption of the reflecting mirror to the uterine speculum. It consists simply in attaching to the vaginal speculum an ordinary reflecting laryngoscopic mirror, by means of an arm with a ball-and-socket joint. When the mirror is used, it is unnecessary to alter the position of the patient, for no matter what the source of light may be, the mirror can be adapted so as to reflect on the cervix

uteri, and a better illumination may thus be obtained either by day or candle-light, and the danger of spilling grease on the patient's clothes is obviated, while both hands of the operator are left free.

MATERNAL MORTALITY IN THE NIGHTINGALE LYING-IN WARD, KINGS COLLEGE HOSPITAL, LONDON.—This ward was set apart at the top of this Hospital, at the request of Florence Nightingale, for the instruction of young women in nursing and midwifery. Directly below the lying-in ward is a medical ward, and below that again a surgical ward, all communicating with the shaft around which the staircase wound. Since its opening, January, 1862, six years, the average maternal mortality has been 1 in 28.9 labors. In the lying-in hospitals of Paris, St. Petersburgh, London, Vienna, Glasgow, Liverpool, and Dublin, the statistics of 90,000 cases show an average mortality of 1 in 29.3 labors. At the Rotunda Hospital, Dublin, the average for six years, 1861 to 1866, was 1 in 34.9. In the British Lying-in Hospital, 1 in 54.8.

SIAMESE TWINS SURPASSED.—All the stories told of the Siamese Twins hardly equal this of the famous Scotch double man, of whom the following account is given in the *Regum Scotorum Historia:* During the reign of James the Third, of Scotland, and at his court, there lived a man double above the waist, single below that region. The King caused him to be carefully brought up. He rapidly acquired a knowledge of music. The two heads learned several languages; they debated together, and the two upper halves occasionally fought. They lived generally, however, in the greatest harmony. When the lower part of the body was tickled the two individuals felt it together; but when, on the other hand, one of the upper individuals was touched, he alone felt the effect. This monstrous being died at the age of twenty-eight years. One of the bodies died several days before the other.

THE MEDICAL INSTITUTIONS OF THE UNITED STATES.—Dr. Th. de Valcourt, of Paris, in his Report to the Minister of Public Instruction, on "The Medical Institutions of the United States," sees a good deal to condemn and much to praise, with reference to our medical schools, medical societies, and hospitals. The organizations of the Harvard and Bellevue Medical Colleges are admired, with a minute description of the airy, clean, and well-ventilated lecture-room and laboratory of the latter institution. The Bellevue Hospital is pronounced faultless; "its wards are very clean," and the Boston City Hospital is represented "as so beautiful and so full of every sort of innovation, that it seems expressly constructed for the purpose of making everybody despair who is smitten with a passion for improvement."

He gives a glowing account of the rich museums of Boston and Philadelphia, while the Army Museum at Washington is described as "beyond all doubt the most curious, the most instructive, and the most complete in the world."

VERY OLD LIVING PEOPLE.—*Hannah Finnimore*, of Delaware, was 108 years old, December 10 (only 29 years younger than Gen. Washington), was 14 years old when the battle of Lexington took place, and 21 years old at the close of the Revolution. She first lived in the kingdom of Holland, 8 years from the time of her birth, in 1761 to 1769; then in the British colonies under the reign of King George, a period of 7 years, until the Declaration of Independence, under which she has ever since resided.

John Kitts, 107 years of age, and a soldier of the Revolution under Lafayette, has applied to the Baltimore City Council for an appropriation.

AMERICAN MEDICAL ASSOCIATION.—The Twenty-first Annual Session will be held in Washington, D. C., May 3, 1870, at 11 A.M. The following committees are expected to report:—

On Cultivation of the Cinchona Tree—Dr. Lemuel J. Deal, Pennsylvania, chairman. On the Cryptogamic Origin of Disease, with Special Reference to Recent Microscopic Investigations on that Subject—Dr. Edward Curtis, U.S.A., chairman. On the Doctrine of Force, Physical and Vital—Dr. John Waters, Missouri, chairman. On Variola—Dr. Joseph Jones, Louisiana, chairman. On the Relative Advantages of Syme's and Pirogoff's Mode of Amputating at the Ankle—Dr. G. A. Otis, U.S.A., chairman. On a National Medical School—Dr. F. G. Smith, Pennsylvania, chairman. On Commissioners to Aid in Trials involving Scientific Testimony—Dr. John Ordronaux, N. Y., chairman.

On the Climatology and Epidemics of—Maine, Dr. J. C. Weston; New Hampshire, Dr. P. A. Stackpole; Vermont, Dr. Henry Janes; Massachusetts, Dr. H. I. Bowditch; Rhode Island, Dr. C. W. Parsons; Connecticut, Dr. E. K. Hunt; New York, Dr. W. F. Thoms; New Jersey, Dr. Ezra M. Hunt; Pennsylvania, Dr. D. F. Condie; Maryland, Dr. O. S. Mahon; Georgia, Dr. Juriah Harriss; Missouri, Dr. Geo. Engleman; Alabama, Dr. R. F. Michel; Texas, Dr. T. J. Heard; Illinois, Dr. R. C. Hamil; Indiana, Dr. J. F. Hibberd; District of Columbia, Dr. T. Antisell; Iowa, Dr. J. C. Hughes; Michigan, Dr. Abm. Sager; Ohio, Dr. T. L. Neal; California, Dr. F. W. Hatch; Tennessee, Dr. B. W. Avent; West Virginia, Dr. E. A. Hildreth; Minnesota, Dr. Samuel Willey; Virginia, Dr. W. O. Owen; Delaware, Dr. L. B. Bush; Arkansas, Dr. G. W. Lawrence; Mississippi, Dr. W. Compton; Louisiana, Dr. D. L. Pimm; Wisconsin, Dr. J. K. Bartlett; Kentucky, Dr. J. D. Jackson.

On Veterinary Colleges—Dr. Thomas Antisell, D. C., chairman. On Medical Ethics—Dr. Lewis A. Sayre, N. Y., chairman. On American Medical Necrology—Dr. C. C. Cox, Maryland, chairman. To Memorialize State Medical Societies—Dr. N. S. Davis, Illinois, chairman. On Nomenclature of Diseases—Dr. F. G. Smith, Pennsylvania, chairman. On Medical Education—Dr. T. G. Richardson, Louisiana, chairman. On Medical Literature—Dr. J. J. Woodward, U.S.A., chairman. On Prize Essays—Dr. Grafton Tyler, D. C., chairman.

Voluntary communications will be presented by—Dr. John Curwen, Pennsylvania, On the Proper Treatment of the Insane. Dr. Nathan Allen, Massachusetts, On the Physiological Laws of Human Increase.

Secretaries of all medical organizations are requested to forward lists of their delegates as soon as elected, to the Permanent Secretary.

Any respectable physician who may desire to attend, but cannot do so as a delegate, may be made a *member by invitation*, upon the recommendation of the Committee of Arrangements.

W. B. ATKINSON,
1400 Pine street, Phila.

SOME OF THE SURGICAL OPERATIONS OF THE LATE DR. R. D. MUSSEY.—He performed the operation of lithotomy 49 times, and all the patients recovered but 4. He operated for strangulated hernia 40 times, and with a fatal result in only 8 cases. He practised subcutaneous deligation in 45 cases of varicocele, and all were successful. He operated four times for perineal fistula, twice for impermeable stricture of the urethra, and did a large number of plastic operations with the best results.

ILLUSTRATIONS OF PROF. E. M. MOORE'S ARTICLE ON "A NEW TREATMENT FOR COLLES' FRACTURE," ETC.

ROBERT CRABTREE.—View from radial aspect.

R. C.—The injured and uninjured side compared.

R. C.—Position of compress immediately after restoration.

Compress and adhesive plaster applied.

MICHAEL KELLY.—Both arms compared.

M. K.—View from radial side, showing deformity in childhood.

Original Communications.

A NEW TREATMENT FOR COLLES' FRACTURE OF THE RADIUS,

WITH REMARKS ON A NEW LUXATION OF THE ULNA.

Being a Paper read at the recent meeting of the Medical Society of the State of New York.

By E. M. MOORE, M.D.,

PROF. SURGERY, BUFFALO MEDICAL COLLEGE.

It is more than fifty years since Dr. Colles called the attention of surgeons to the fact that fracture of the lower end of the radius was very often overlooked, and confounded with a mere swelling from blood, and the subsequent inflammatory effusions. The confusion of all salient points arising from this swelling, and the frequent absence of crepitus, especially when handled in a gentle manner, has served to perpetuate a faulty diagnosis. This is the more to be lamented, as the accident is one of frequent occurrence, and, when not restored with precision, is clouded with a doubtful prognosis. I say nothing of the ordinary appearance of this fracture—this is too familiar for repetition. The wrist carried backwards, the ulna downwards and outwards from the axis of the forearm, the hand inclined to the radius, the fingers flexed, all present an attitude which is well formularized by the "silver-fork." The fact that modifications of treatment have been proposed by many eminent surgeons since the time of Dr. Colles, serves but to show that our knowledge has, in some way, been incomplete. An opportunity to make a post-mortem examination, under very favorable circumstances, has so modified my own views, and I have acted upon them with such constant success, that I feel their correctness has received the test of an experimentum crucis.

In May, 1869, Mary Tumey, aged 45, in a paroxysm of insanity, threw herself from the third-story window of St. Mary's Hospital, striking the ground with both hands; receiving also a blow on the spine, opposite the second and third dorsal vertebræ. The spinal cord was crushed, and both wrists broken, producing Colles' fracture. She breathed but twenty minutes.

The condition was uncomplicated with any effusion, except a trifling amount of blood, or with any modification from muscular action.

The examination of the right arm was commenced by removal of the skin from over the wrist, leaving the fascia of the forearm undisturbed. Rotation of the hand did not produce crepitus.

The projection of the wrist backward was that of an extreme case of this fracture, and the ulna was carried well downwards and outwards from the axis of the forearm. On raising the fascia, the lower fragment was seen to ride the back of the upper one, or the main shaft of the radius, and to be placed at right angles to its natural position, while the hand was in a state of extreme flexion in relation to it. There was not the slightest impaction. The absence of crepitus was explained by the fact that the rough surfaces were not in contact. The fracture was transverse and the surface of the lower fragment, which was about half an inch in length, came in contact with the periosteal surface of the back of the upper fragment or main shaft. The entanglement permitted rotation, but not crepitus. The next step in the manipulation was to press the displaced fragment into its place. I was surprised to find a resistance which seemed like muscular action. This being manifestly impossible, the cause was again sought for by a repetition of the movement, when the same result was produced, giving an elastic rebound.

The solution was found in the peculiar position of the ulna, its luxation and ligamentous entanglement.

It will be remembered that the ulna does not articulate with the wrist-joint, but that its head, although covered with cartilage, and provided with a synovial membrane, and of course a complete joint surface, articulates with the triangular fibro-cartilage. The anatomists emphasize this arrangement so decidedly, that we are apt to forget the important fact of the articulation by the triangular fibro-cartilage on its distal surface with the wrist-joint. Thus the ulna has a mediate articulation with the wrist-joint, a fact of great practical significance. It will also be remembered that the fascia of the forearm is very much strengthened at its lower end, and that the extensor muscles run in grooves constructed from it, and that its transverse fibres, under the name of the posterior annular ligament, run across to the pisiform bone, some of them passing over the head of the ulna. The internal lateral ligament passes from the end and inner surface of the styloid process to the cuneiform bone. The triangular fibro-cartilage also subserves the purposes of a ligament, making an insertion in the pit at the base of the styloid process, but with a stronger attachment to the radius. The ulnar extensor runs in a sheath of the fascia, and as can be seen and felt upon the living arm, takes a course between the styloid process and head. But while it is really on the back of the fore-arm, it is so far upon its side that the tendon plays upon the side of the head and furnishes a lateral support. The tendon is just above the internal lateral ligament. The cause of rebound now became manifest; for the styloid process was so far projected as to catch the fibres of the annular ligament, and the ulna being prevented from rising, forced the wrist back. Various attempts at reduction were made at this stage of the examination. The ordinary plan of bending the hand toward the ulnar border of the fore-arm resulted in tightening the annular band on the styloid hook, and no pressure on the anterior surface of the ulna could cause its liberation, but, on the contrary, insured its retention. Simple extension also failed to relieve the entanglement and restore the luxation, but a movement described below was entirely successful, and when the parts were all replaced, the tendency to displacement was inappreciable. An incision through the annular ligament revealed the nature of the separation. The internal lateral ligament was torn away from its attachment to the styloid, by separating the scale of compact bony tissue composing its end and inner surface (the ligament proving stronger than the bone), thus leaving the styloid as a rough and ragged hook to hold the annular ligament. The attachment of the triangular fibro-cartilage to the styloid was also torn off, but the rent was through the cartilage, leaving a few tags at the pit. The complete severance of all ligamentous restraint permitted the ulna to bulge outward and downward; and as the hand is carried backward and upward, the styloid hook is moved forward and held at the pisiform bone by the annular ligament. The ulnar extensor was carried toward the radial side of the ulna. When the ulna became free from the annular ligament, its head was moved toward the radius, and through the fibro-cartilage, rested against the wrist-joint, thus holding the hand out at full length, keeping the fractured ends of the radius in apposition, and furnishing the best of all splints—an entire parallel bone, in place. Thinking it possible that the condition found might be peculiar, I proceeded at once to a similar examination

of the left wrist. The fracture was oblique in two directions. Commencing within a quarter of an inch of the wrist-joint on the palmar surface, the line ran back to three-fourths of an inch, inclining to the ulna. The position of the ulna was the same as on the right side; the rupture of the internal lateral ligament took place in the same way, carrying rather more of the bone tissue than on the right side. The triangular fibro-cartilage was torn out with similar tags and the annular ligament was folded into a similar cord, causing a rebound when the lower fragment of the radius was carried down into its place. The only point in which the two differed was in the line of fracture, which seemed not to bear the least upon the question of reduction or retention.

The fibres of the pronator quadratus were a little torn in both cases, but I could not perceive that there was any influence exerted by it or any other muscle or tendon in preventing reduction. As before stated, the autopsy exhibits a case of what may be termed an extreme condition of this form of injury.

It is altogether probable that fracture of the radius may occur with which there is no complication of ulnar luxation. In these cases, there would be but little deformity, and crepitus would undoubtedly be a matter of easy determination.

A good result with almost any treatment would also be probable. But a force competent to fracture the radius, if not expended, would generally be able to rupture the ligaments, in consequence of the immense leverage that the hand acquires with the head of the ulna resting mediately on the carpus. When the internal lateral ligament and triangular fibro-cartilage yield, the annular ligament becomes slipped over the head and on the styloid hook. In order to determine the succession of movement in the ligamentous rupture, I subjected the arm of the cadaver to a force gradually applied, after having made a fracture of the radius just above the wrist-joint. This was effected by strapping the arm firmly down and attaching a lever to the hand, then bending the latter well back with a slow but irresistible force. The hand began at once to describe a circular sweep upward, backward, and toward the ulna; in short, such a movement as would necessarily occur with the short fragment, held by the radio-ulnar ligament. The bulging of the ulna outward and downward preceded the rupture of the internal lateral ligament. But the fascia of the forearm lying on the ulnar head became stretched, and fibres of the annular ligament slipped over it. As the force was continued, a double snap, loud and sharp, was produced by the breaking of the internal lateral ligament and the triangular fibro-cartilage—apparently in the order stated. The end and internal surface of the styloid was broken off. The annular ligament at the same moment was caught on the styloid, presenting precisely the appearance shown by the autopsy.

If there should be an arrest of movement before ligamentous rupture, the difficulty is one of simple fracture uncomplicated with luxation of the ulna. The annular ligament, though drawn a little over the ulnar head, would not be likely to interfere with reduction. But when the internal lateral ligament and triangular fibro-cartilage give way, the displacement of the ulna assumes a definite shape, and in this resembles the other regular luxations which are determined by constant forces.

The autopsy and subsequent experiment render it evident that we have in the injury usually known as Colles's fracture, not a mere break of the bone, but a luxation, to deal with.

The displaced ulna is always noted, and surgeons have had various suspicions of ruptured ligaments. But it has not been regarded in the light of a luxation with a regular position, which must be rectified before replacement of the fracture should be made, and without which imperfect results are to be expected. This, I am convinced, is the key of the difficulty. Reduction of the luxation must first be made, and then the fracture is probably of all others the most insignificant. But no theory can be of much importance without the support of cases, and it has been my good fortune to have the results of my treatment subjected to tests sufficiently numerous to place the matter at rest as a practical plan. The mode of procedure is as follows:—

The patient may be etherized or not. An assistant holding the forearm of the patient, the surgeon grasps his hand, the right with the right, and *vice versa*. With the other hand placed under the forearm above the fracture, he is enabled to bring the thumb over the back of the ulna, the fingers wrapping around the radius. Traction is first made by extension, then drawing the hand laterally to the radial side, then backward, next keeping it held backward, and while making extension, it is swung toward the ulnar side, bending well laterally, when the extension of the hand is changed for flexion, thus describing nearly a semicircle in circumduction. The position of the hand grasping the forearm undergoes constant change, as it is the antagonist of the other hand in everything but the extension. As the backward position of the hand, when it is carried to the extreme ulnar side, is changed to flexion of the hand, the thumb of the surgeon rolls around the border of the ulna, and is below when the manœuvre is complete. The test of reduction is to be found by the presence of the head of the ulna on the radial side of the ulnar extensor.

The head of the ulna rests mediately, through the triangular fibro-cartilage, on the cuneiform bone, and is restrained from going backward by the annular ligament, holding on each side the tendons of the extensor minimi digiti, and the extensor carpi ulnaris, thus making a concavity corresponding in form to a socket. When it is pressed into this pocket, and the hand flexed so that the head is supported by the wrist, the position of the hand is also restored in its relation to the radius. As a result of the displacement of the ulna, the ulnar extensor is carried from its place above the styloid process to the opposite side of the ulna, in an extreme displacement, but sometimes remains above its centre. To disentangle the styloid and swing the tendon of the ulnar extensor over into its place, is the purpose of the manœuvre. The hand is drawn toward the radius, to pull off (by stretching) the annular ligament. The backward motion, accompanied with extension, renders the ulnar extensor tense, which serves to draw the annular ligament backward. This is effected by pressing the thumb upon the ulna. The circumduction carries the tendon over the side. Its character as a luxation is still further shown by the fact that the restoration is often accompanied by a snap both tangible and audible. If restored, the retention is effected by a compress and bandage of adhesive plaster. When the manœuvre described has been completed, the hand is flexed, and the thumb of the surgeon rests on the under side of the ulna. Its head appears on the back of the wrist, and corresponds with the opposite arm in every respect, except the swelling from blood effusion. As in the treatment of any other luxation, the effort should not be abandoned until the deformity is removed and the ulnar extensor in its place,—a fact that can be determined at once. The dressing I propose is intended to hold the head of the ulna up in its fascial socket, by bringing the weight of

the hand to bear upon the ulna to retain it home. If the thumb of the surgeon is kept under the ulna after reduction, it will be found that the weight of the hand is sufficient to keep it in place. As a substitute for the thumb, I place along the ulna, from the pisiform bone upward, a cylindrical compress about two inches in length, and about half an inch in thickness—in fact, a single headed roller. This is placed against the ulna, resting also on its radial border against the tendon of the flexor carpi ulnaris. A band of adhesive plaster of the same width is wrapped firmly around the wrist, and over the compress, extending downward to the extreme point of the radius, thus grasping the bones neatly and tightly. The ordinary rule of loose dressing on the first visit to a fracture is one that I distinctly reject. I propose to bring all the parts into close relation. The patient is allowed to cut the bandage along the back of the wrist in about six hours, if the swelling and pain seem to demand it. But I find it is not often done. The thickness of the compress raises the adhesive plaster so far from the anterior surface of the forearm that strangulation of the vessels does not take place. Moreover, the compress yields a little, and thus diminishes the pressure. A narrow sling passing under the compress, so as to bring the hand's weight to bear upon the ulna, completes the dressing. Indeed, even in the recumbent posture this should be done. The first recent case occurred in July of the current year, in a man thirty-two years of age, who received the injury to his wrist by a fall of fourteen feet. The patient was seen by two of my medical friends, Drs. Hovey and Rogers, of this city. The diagnosis was inferred, not only from the deformity, but was confirmed by crepitus. They applied the method of reduction described above, and had the satisfaction to find the head of the ulna appearing on the radial side of the ulnar extensor tendon. The compress and plaster were applied as described. I did not see the patient until the third day, when great swelling, in consequence of a firm renewal of the bandage daily, had resulted in the production of great pain. The patient being confined to his bed for other injuries received at the same time, the hand, unknown to Dr. Rogers, had been supported and carried toward the radial side. This resulted in some displacement. On the third day the surgical manœuvre, as described, was again employed, and the compress and bandage applied, but not so tightly, and then the hand allowed to hang down, supported by a sling under the compress. The treatment was continued four weeks.—*Oct.* 18. Called to see the patient, who had been at work five weeks. He performs the hardest kind of labor with ease (lifting heavy lumber). There is the evidence of a little thickening around the whole wrist, but not much. Says there is slight "soreness" at night. Result perfect.

However, a minute detail of cases is unnecessary. The same plan was adopted, as far as the dressing is concerned, but as several were seen at various periods remote from the time of fracture, and when union had taken place, requiring force for its separation, it was found necessary to add weight to the hand and maintain the treatment for a longer period of time.

The cases in order of succession were, Edmund Blohm, aged thirty years, whose case has been described. It was the first one that received the treatment in its simplicity, and the bandage was retained four weeks.

Mrs. Betsey Tod, æt. sixty-nine, was seen by Dr. Hillman, and treated by bending the hand downward toward the ulna, as commonly practised, and retained by an angular splint. At his request I saw the patient ten days afterward. Restoration had not occurred, and Dr. Hillman gave his opinion that no change had resulted from the dressing. The patient was etherized, and reduction effected at once. Treatment continued thirty days.

This patient is the only one in whom the result was in any way imperfect. The inflammation was rather unusual, and although the reduction was complete, the ligamentous repair was not as perfect as in the other cases and the ulna gradually slid away laterally, producing a consecutive luxation. This result admonishes us to extend the period of treatment when there is much inflammation.

Mrs. Sarah Wise, æt. sixty-nine, was treated with an angular splint four weeks. Great swelling and pain resulted, and continued until the time of reduction. I first saw her on the thirty-fifth day after the fracture. A good deal of force was necessary to effect the object, but it was accomplished by the hands alone. The swelling has continued far more than in any other case, but restoration is complete and the use of the hand returning. In no other case has the swelling or inflammation been more than trifling. The treatment was carried out for forty days, aided by the use of a shot-bag, weighing three-fourths of a pound, during fifteen days.

Mrs. Amanda Smith, æt. fifty-three, was not treated at all, as she thought it "was only a sprain." Not improving, but, on the contrary, following the usual course of the unreduced fractures, she grew worse and applied for advice. On the forty-first day she was etherized. The radius was so firmly united, that it required all the strength I could exert to break it off, bending the hand backwards. After the separation, the hand was swung into its place and retained by compress and bandage, aided by a shot-bag three-quarters of a pound in weight. This was used for fourteen days, and then the weight of the hand alone was relied on for fourteen days more. These cases all presented some difficulties, which would not generally occur. The time that had elapsed from the injury to the reduction rendered the restoration more difficult.

Miss Mason, æt. sixty, was the first case I saw immediately after the accident. I need hardly describe the case. Suffice it to say, that the condition was one of moderate severity; under the ether reduction was effected, and the dressing applied tightly, with direction to cut the strap on the back of the arm if it became painful. This was done in a few hours, but the plaster retained its position and was continued to the end of the treatment. On the thirteenth day the bandage was removed, and the direction given to use the hand. The restoration was rapid and complete.

Mrs. Van Ness, æt. fifty-two. Seen by Dr. Hillman on the day subsequent to the injury. She had been seen immediately after the accident by Dr. Swinburne, who diagnosticated the fracture, but the patient preferred to refer the case to her own medical adviser (Dr. Hillman), who also recognized the fracture, both by the deformity and the crepitus. He at once applied the treatment as above, which was continued until the eighteenth day. At this period I saw her for the first time and at once removed the dressing, directing the use of the hand. The industrious wife of a farmer found an abundant use for it, and took my advice literally, employing it at hard work. It has been a perfect result, indeed one of the most rapid in improvement.

The last case, Robert Crabtree, a laborer, æt. 35, had broken his wrist nine days before reduction, which was effected under ether with an audible snap. The strap and compress were removed on the thirteenth day.

Of the children, John Dean, æt. 14, was treated by Dr. Menzie, of Caledonia, after the plan proposed. The

dressings were removed on the twenty-eighth day. Charles Harman, æt. 8 years, dressed by Dr. Holman with the pistol-shaped splint. I was requested by the medical attendant to see the patient on the eighth day. It was plain that reduction had not taken place, but this was effected by circumduction. Treatment was continued four weeks—result perfect. Michael Kelly, æt. 9 years, reduced four weeks after the accident. Much force was required to break it over, but the reduction and retention were not difficult. Dressing removed on the fourteenth day. Two more cases of 15 and 17 repeat the same story.

Since my attention has been especially directed to the study of this fracture, I have become convinced that there are more cases of separation at the radial epiphysis during childhood than have been suspected. The cases of five children, from eight years of age to that of seventeen, in the practice of my medical friends and myself, occurring simultaneously with seven cases in adult life, are a larger proportion than is commonly supposed to exist between the two periods of life. But if the diagnosis is often overlooked, the restoration is more easy in children. The rounded character of the bones and general flexibility of the child's wrist conspire to render the reduction easy. Simple extension will probably answer in most cases. The popular notion, that every deformity is caused by "something out of joint," has, in these cases, more justification than usual. One lad of fifteen came to me after reduction by some of his companions, who pulled at it "because it was out of joint." Every case, except one, that has been treated by the method described may be said to be perfect. This phrase does not mean to exclude the tenderness and swelling incident to such an accident, but conveys a correct statement of the anatomical relations of the injured and separated part, including the radius and ulna. I very much doubt whether any comminution of the lower fragment, upon which much stress has been laid, would materially affect the result. When the ulna is in place the full length of the fore-arm is attained, and the traction on the muscle would allow the broken parts to come down far enough to permit the irregularities to become adjusted with more than usual facility. The extensor tendons, placed upon the stretch by the drooping hand, retain the broken fragments with neatness on the back, while the adhesive strap, drawn with decided force, brings them together laterally. The method is essentially painless after reduction.

The short period of time for continuing the treatment, which has been adopted in the recent cases, has been justified by the results, and has been entered on for two reasons: Motion as early as possible after ligamentous repair is a cardinal principle in the treatment of luxation, and therefore desirable in these cases. Moreover, the fractured surfaces are broad and nearly apposed, and are in cancellated bone. These considerations induced the trial of fourteen days as the standard of time, which has been fully justified by the results.

To the plan of direct extension, which has some strenuous advocates, I am disposed to attribute more successful terminations than to that of immediate lateral bending toward the ulna. For extension is the means of reducing luxations so generally, that it would be likely to prevail here, but I am satisfied that it cannot be relied on for maintaining the neat and close fit required for the ulnar head in its fascial socket. Apparatus will become relaxed, and if the extension yields, there is a tendency of the ulnar head to slide downward. This can be verified by merely removing the support from beneath the ulna after reduction. Hence the plan of bending the hand laterally, which has been the almost universal practice, is justified by its success in retaining the ulna; but the plan so often fails in the restoration, that we must believe it has generally been pulled into its place by extension first in the cases that had a successful termination. The shortening of the radius and the lateral twist of the hand have usually been explained on the ground of impaction of fragments. This is rendered unlikely by the well-known fact that the head is carried backward of the line of the radius. If impacted, the line of force should be the axis of the radius. But nothing can be more evident than the fact that this can never be the case. The doctrine is, however, fortified by cases. Erickson reports an examination of a case, twelve days after fracture, and found the lower fragment split and impacted to the depth of half an inch, so as to require some force for its separation. The piece was tilted upward and backward. Now I submit that the adhesion in twelve days would be sufficient to render the question of impaction a difficult one to determine, and as they (the lower fragments) were tilted upward and backward, they were moving at the moment of injury in a direction not to be impacted.

The absence of crepitus is easily understood in those cases where the fracture is transverse, and the broken surface of the lower fragment is brought in contact with the periosteum. And, indeed, rotation can be made readily, without crepitus, when there is a mere interlocking of broken surfaces.

I have made some measurements, both as tests of the fact and amount of displacement, which I have not known to have been made before. By placing a plane surface behind the elbow and the forearm at right angles to the arm, a measurement to the extreme point of the ulna and radius shows, in the normal condition, that the distance is the same. But when the radius is broken and the ulna luxated, a shortening of the radius takes place, of from a quarter to nearly three-quarters of an inch. At the same time the breadth of the wrist, measured by placing two plane surfaces on each side, is increased by the lateral bend of the broken radius.

Robert Crabtree measured:

Left radius	11¾	inches.
" ulna	11⅝	"
Width of uninjured side	2⅜	"
" injured side	3	"
After restoration at once	2⅝	"
Length perfect.		

Michael Kelley, æt. 9:

Length of radius	7⅜	inches.
" ulna	7⅜	"
Injured side, breadth	2 1/16	"
Uninjured	1⅞	"
Restored	Alike.	

Résumé.—The lower fragment is carried back over the radius, turned toward a rectangular position, and is not impacted. This accounts for the shortening of the radius and the bending of the hand to the radial side of the forearm.

The internal lateral ligament and triangular fibro-cartilage are usually broken, and when this occurs the posterior annular ligament is slipped over the head of the ulna and caught on the styloid process, which brings and holds the point to the pisiform bone. The first step in the treatment consists in the restoration of the luxation, when the treatment of the fracture becomes entirely subsidiary. When the ligaments are repaired, if the apposition is perfect, the fracture may be trusted in the use of the hand. It is a luxation and not fracture that we deal with.

THE USE OF SULPHO-CARBOLATE OF POTASH AND OF LACTIC ACID AS SOLVENTS OF CROUPOUS MEMBRANE.

By C. C. TERRY, M.D.,

NEW YORK.

Fred. E———, 4½ years, lived in the same house with an uncle's family from which a girl of about Fred's age, and his constant companion in play, had died in about 48 hours from the commencement of a disorder which was at first called "sore throat" and the next day "diphtheria." From the parents' account of the case, it seems to have been croup.

Ten days after the death of his cousin, Fred seemed less active than usual, inclined to mope, and ate but little.

The next day, November 30, 1869, the child coughed a little, and seemed so feverish that the mother became alarmed lest there might be diphtheria.

During my attendance upon another child in the family, I had occasionally romped a little with Fred and the cousin, and my first observation now was of his unusual paleness and sluggish locomotion.

The throat was brawny, no glands distinctly enlarged; pharynx tumid, and, as also the fauces, streaked with a whitish material, whose appearance suggested muguet, especially as the uncovered parts were not perceptibly glazed. At this time the skin was dry and unusually warm, the pulse accelerated (apparently by fright). No complaint had been made of any symptom on the part of the child.

The muguet-like material was not easily detached, and left a red and bleeding surface, without apparent loss of substance.

A microscopical examination exhibited many blood corpuscles—the normal proportion of white; an immense number of irregularly circular and granular bodies, many as large as blood-corpuscles, but most smaller, and many without granular contents (pus and mucous corpuscles); many flat polygonal and nearly circular nucleated epithelia of various sizes; masses of finely granular material, spread out in considerable areas; and masses of coarser reddish granular material: altogether answering to Beale's description (Mic. in Med.): "There is nothing very distinctive in the exudation effused upon the surface of the mucous membrane of the fauces in cases of diphtheria."

A solution of sulpho-carbolate of potassa dissolved the parcel. So I was induced to sponge the throat with the same solution. Ice-water shrinks and stiffens the exudation; warm water has little solvent effect, as ascertained in other cases.

In the evening the neck was less brawny, the pharynx less tumid, paler, and exhibiting but slight traces of the exudation. But I was only at the upper margin of the objective disease, for the voice had become raucous, the cough brassy, the cry constrained; tracheal respiration harsher, and some râles.

Undertook to follow the exudation into the larynx and trachea with the sulpho-carbolate solution, and for a short time with seeming benefit. The pharynx had been very tolerant of the sponge and solution, but the laryngeal sensibility had become so obtunded, that only a slight cough followed the introduction of the solution. This was not encouraging for the lower air-tubes.

Prescribed a dose of the sulpho-carbolate, to be taken every third hour (Sansom in *Practitioner*, July, 1869, p. 12). The child would take nothing but water and an occasional spoonful of beef-tea—not enough to count.

Dec. 1.—Slept last night. Pharynx clean, but still tumid and red. Voice more raucous; cough more croupy; respiration embarrassed, increased in frequency; face anxious.

Sulpho-carbolate locally, and by stomach every hour. Auscultation discovered no change. Ice over larynx and trachea, not against the exudation so much as the probable subjacent congestion, which of itself might be able to embarrass respiration.

Dec. 2. Larynx more desperately involved; inspiration loud and harsh, respiration harsh; dyspnœa; duskiness of eyelids and contour of mouth; voice extinct; no cough; perfect anæsthesia of pharynx and larynx. An emetic did not assist in clearing the air-tube.

In the evening, increment of the dangerous symptoms; inspiration and expiration stridulous; under the ear but little air could be heard entering the deeper tubes, and throughout most of the lung there was a silence, broken only by a frequent bronchial râle and an occasional normal respiratory murmur; general cutaneous anæsthesia, or better, perhaps, inattention, for the little fellow walked excitedly around on his bed, and seemed intent only upon getting air into his lungs.

Respiration 52 per minute; pulse about 140, diminishing and almost ceasing with each prolonged stridulous inspiration, increasing in force and frequency with the alternate expiration.

The knowledge that, in certain rare cases, at apparently the last moment, a portion of membrane has been expelled with saving relief, weighed but light against impending asphyxia; and tracheotomy, in a trachea already diphtheritic, offers at least a mitigation of the agony.

At this juncture I was glad to share the responsibility with Dr. Jacobi, whose large experience in tracheotomy for croup makes his assistance excellent; and his kind hand lifted me over the difficulties of the operation. Chloroform was administered: under it respiration was something easier.

It was necessary to open as low as possible, and the trachea was both deep and small.

In the course of the operation the anterior mediastinum was pricked, as was announced by a hissing and crackling of visible minute bubbles with each inspiration and expiration.

The introduction of the tube was followed by calm respiration, the pulse lowering but a few beats. No cough; no expulsion of membranous fragments; but crying caused some swelling up of muco-sanguineous material from time to time.

The feather excited no cough, but annoyed the child by embarrassing the respiration, and brought up considerable quantities of brownish, shreddy, and mucous matter, which, under the microscope, exhibited mucus, pus, and epithelial bodies embedded in a viscid, slightly opaque, and striated substance.

The child fell asleep, and was left under observation. In the course of the night I was informed of an increasing dyspnœa, which was relieved by more care in clearing the tube.

Dec. 3.—Early in the morning I received word that suffocative symptoms had suddenly set in. Having in mind that I had once lost a promising case by complete occlusion of inner tube, which the attendant had not courage to pull out, I hastened to the scene of danger.

Unfortunately, the only one of the tubes present at the time of the operation, which was of suitable size, happened to be a single one which, of course, the attendants must clear *in situ*. After substituting an appropriate double one, it was discovered that the obstruction was indeed a plug of brownish glutinous material. Brandy and beef-tea could now be taken. The

child walked about the floor, appearing quite comfortable; but auscultation discovered râles in the larger bronchial tubes, and, although there was no dyspnœa, the respirations were shallow, 40 per minute, and the pulse 120.

The feather brought up considerable fragmentary material, which exhibited, in addition to the appearances last mentioned, a great many slow-moving vibriones. The sulpho-carbolate solution was applied by the feather in the bronchi. By this time there was emphysema of the neck and upper part of the breast, extending to the axillæ. (See Dr. Graham Weir's case in London *Lancet*, Am. Edit., Dec. 1869, p. 654.)

The solution became inoperative; the feather neither excited cough nor brought up considerable portions of exudation, nor was its presence in the bronchi resented except as it interfered with the passage of the diminishing current of air. Respiration became more laborious, while auscultation discovered good respiratory sounds everywhere excepting in the larger tubes at the root of the lungs.

By Dr. Jacobi's advice I substituted lactic acid (Weber) for the sulpho-carbolate solution, having previously ascertained its positive solvent action upon the extracted fragments of exudation. For a time there was a little improvement; the feather was more useful; respiration was easier; the child took its brandy and beef-tea, walked a little on the bed or sat on its mother's arm, and seemed happier. As the evening set in, all the symptoms took a desperate turn; so by 8 P.M. dyspnœa was violent, face dusky, countenance anxious, lips purple, eyes glazed, pulse 160, small and wavering, respirations 55—60, inspiration short but labored, expiration prolonged and noisy. Vesicular respiration everywhere pretty distinct; a few moist râles and harsh sounds in the larger tubes. Percussion sounds good.

The bronchi, to the reach of a long feather, perfectly insensible, and I could gather but a few dryish fragments of the exudation, and these were afterwards found to swarm with vibriones. A teaspoonful of the lactic acid solution, poured through the tube, bubbled forth again with the next expiration.

Emphysema had extended to spine.

Death in five hours, preceded by semi-coma and muscular resolution.

One remark: the emphysema was inconsiderable, entirely subcutaneous, and could have done no mischief (even if the repeated physical examination had not demonstrated its probable absence from the thoracic cavity), for the tracheotomy tube offered a manifold larger entrance than the minute prick of the mediastinal tissue.

MANAGEMENT OF MANIA A POTU.—Prof. Rochester, of Buffalo, N. Y. (*Buffalo Med. Journal*), in a Clinical Lecture on *mania à potu*, states that when tincture of digitalis was first recommended in this disease, he strongly opposed it, but his subsequent experience in the use of it has been quite happy. A patient who had not been improving was given one drachm of tincture of digitalis, and 20 drops of tinct. capsicum, once in two hours; two doses were taken, and at the time of the third dose he was sleeping well. In another case in the city, digitalis succeeded where active agents had previously failed. The bromides of ammonium and potassium may be given in doses of 20 grs. as a nervous sedative, or valerianate of ammonia used, and as a rule, opiates in some form. If the stomach is unable to bear opiates, hypodermic injections of one-half a grain of morphine may be given, and in three hours be repeated if necessary.

Original Lectures.

CLINICAL LECTURES ON THE DIAGNOSIS AND TREATMENT OF

STRICTURE OF THE URETHRA.

By J. W. S. GOULEY, M.D.,

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LECTURE II.

TREATMENT OF INTRACTABLE STRICTURES. DIVULSION AND DIVULSORS. ILLUSTRATIVE CASES.

GENTLEMEN—This patient appears here again, in accordance with the promise I made to you at the close of our last meeting. You will recognize in him the man who was suffering from prolonged retention of urine consequent upon stricture of the urethra. I propose now to report upon the progress of the case, and endeavor to estimate the value of the mode employed for his relief, and to ascertain what, if any, advantage it possesses over other methods.

On the evening of the operation the patient had a slight chill, which was not, however, followed by fever. On several prior occasions, simple catheterism had, in his case, been followed by similar but even more severe rigors. On the following day his skin was warmer than normal and his pulse 100 to the minute. He was also suffering pain in the hypogastric region, from overdistension of the bladder, which was nearly as full as before the operation, though, during the night, he had passed, involuntarily, a considerable quantity of urine, and no catheter had since been introduced. At about mid-day, a gum catheter was passed and three pints of urine drawn; the instrument was then plugged and retained in position, that some might be drawn off every two hours without subjecting him to the pain of frequent catheterism; at about ten o'clock P.M. the bladder was completely emptied, and the catheter was removed. I would advise you to pursue this plan under similar circumstances, but the instrument should not be retained upwards of twelve hours. On the third day the patient passed some urine at will, but afterwards most of it was taken from him by means of the catheter, morning and evening, after which the bladder was injected with two ounces of tepid water.

A red and painful swelling had made its appearance at the extremity of the prepuce, from infiltration of a drop or two of urine through the connective tissue of the frænum which had been involved in the incision of the meatus,—the frænum in this case extends unusually far forward. This tumefaction of the prepuce increased until the fifth day, when fluctuation became distinct, and the abscess was opened. The same occurrence had been observed in an analogous case some years ago, and had led me to make the incision a little to one side of the frænum in several others, by which this accident was avoided; but in this instance it had not occurred to me to carry out the plan.

The urine has been drawn off, and the bladder injected twice a day regularly. The cystitis is improving on this account, and also because the source of obstruction has been removed. The organ is rapidly regaining its power of contractility, and the patient is now (the 7th day) able to empty it without the aid of a catheter. He gets up but once at night and four times during the day, and passes a normal stream of urine. The bladder

will be injected once in the twenty-four hours for a few days more. He has had no chill since the occurrence of the rigor on the evening of the operation. As the case was one of great emergency, and as it was necessary to proceed at once to its relief, there was scarcely time to investigate it so closely as I have since been able to do at leisure. You will remember that your attention was called to the puffiness of his lids and to his pallid and bloated face. Subsequently, his legs and feet were noticed to be slightly œdematous, and it was ascertained, on close questioning, that he had been subject to headaches, dizziness, and photopsia. All this led me to have his urine carefully examined. Here is the report of Dr. Curtis (Acting House Surgeon) who made the examination.

The urine was acid, with a specific gravity of 1011; it contained abundance of albumen,—due, however, to the presence of a considerable quantity of pus. Microscopic examination revealed the presence of hyaline casts.

We have now to cope with this additional serious complication, renal disease, which would have hastened to a fatal termination, had the patient's bladder remained unrelieved, and had rupture of the urethra and extravasation of urine occurred. But it may now be fairly said that he has taken a new lease of life; and if he continues to be prudent and sober, his kidney affection may remain quiescent for years. His urethra is rapidly losing its extreme sensitiveness, and is in fact quite tolerant of the sound, as you see by his present behavior under catheterism. Please to observe also that the instrument (No. 13) meets with no impediment whatever, and that it has fairly entered the bladder. The incision made near the extremity of the prepuce is covered with healthy granulations and will soon heal entirely. The necessity of using a steel sound, of the size just employed, once a week for life, has been urged upon him, and it is to be hoped that he will follow the advice. It is as near as we can come to curing his stricture.

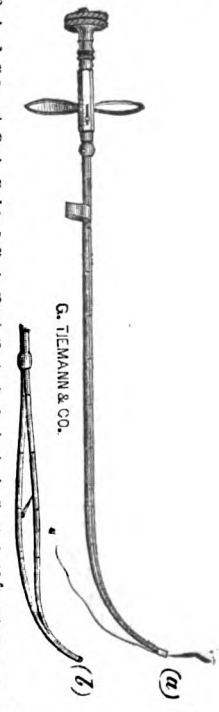
This very interesting and instructive case has furnished us an abundance of food for thought; I might entertain you an hour on either of the complications which have attended it, but other cases will, in good time, supply the same material: therefore, to-day I propose to occupy your attention with the merits of *divulsion* as a means of relief in narrow and intractable strictures, and to indicate to you, more in detail than I have done, the instruments proper to effect this. To cure intractable strictures without the knife has been, for many years past, the aim of progressive surgeons; to accomplish this, a great many devices have been proposed, and some of them have fallen into disuse, because they were found to be harmful and even dangerous; among them may be mentioned the caustic treatment so much in vogue in the times of John Hunter, Sir Everard Home, Whateley, Sir Charles Bell, Ducamp, etc. Others that have possessed merit have survived or have been resuscitated, and the necessary appliances have been subjected to modifications and improvements. Prominent among these is the method by divulsion, better understood and appreciated in our time than when the early "dilators" were brought forward. I will now briefly review, for your benefit, what has been done and what is being done in that direction.

In the early part of this century, Mr. Luxmoor, an English surgeon, employed a four-bladed instrument to "dilate" strictures; later, Mr. Weisse, a surgical instrument maker of London, constructed a two-bladed instrument (first used by Sir Astley Cooper) for the extraction of small calculi of the urethra and bladder; this suggested to him a three-bladed "stricture dilator"—a drawing of which appeared in his catalogue of surgical instruments published in 1831. Mr. Guthrie claims to have been the first to employ this "dilator." The instrument has an olivary point about equal to No. 5 of the English scale, and its blades, free at the extremity, are opened by means of a lever which is moved by a screw in the handle. But these instruments are too clumsy, too large, and cannot be applied to very narrow constrictions.

In 1847 appeared Dr. Michéléna's thesis on stricture, with a description and engraving of a "dilator" consisting of two blades, free at the extremity, and acted upon by a series of levers. In 1849 Mr. Rigaud published, in the "Gazette Médicale de Strasbourg," a description of a similar instrument, and the two are sometimes confounded. In Mr. Rigaud's dilator the blades slide upon each other while they are being opened, but in that of Dr. Michéléna they preserve their parallelism.

To Mr. Perrève of Paris is due the credit of having devised and employed a "dilator" with a short, delicate, conducting gum bougie attached to its extremity, and intended to penetrate very close strictures complicated with false routes. This instrument consists of two slender blades, between which rods of different sizes are introduced, according to the degree of dilatation the operator intends to make. His first "dilator" (without conductor) was devised as early as 1835. Many years later, Mr. Bernard Holt, of London, used the same instrument with some modifications, first only, as he supposed, to *dilate* the urethra. Two other surgeons, Richardson and Voillemier, have modified Perrève's instrument, but without altering the principle of action.

In the "Medical Times and Gazette," May 2d, 1863, will be found a description of an instrument devised by Sir Henry Thompson for the treatment of stricture of the urethra by "gradual distension at a single sitting," even "beyond the natural calibre of the canal." But rupture must have taken place, inasmuch as hemorrhage had always occurred after this so-called "gradual distension." The instrument has the merit of being very simple in construction, and, as I think it meets nearly all the requirements of a divulsor, I prefer it to the others. By means of a single lever, the two parallel rods are made to "separate so as to form a long oval or spindle-shaped figure," the greatest diameter of which will correspond to the seat of the stricture to be "dilated," and equal in circumference No. 18 of the English catheter scale, or even more. In the third edition of his treatise on stricture, etc., Sir Henry Thompson speaks of the instrument as suitable for the performance of divulsion. Believing the original dilator" to be too large for the treatment of very narrow strictures, I have had it considerably reduced in size, and have modified it so that it can be used with a conductor. The dimensions of the instrument I now show you (Fig. 5) are, 2 millimetres at the extremity, and 3½ millim. at the part susceptible of greatest expansion. Its diameters can be further reduced without any impairment to its



strength. Another important modification I have made, is in the blades, which, instead of being flat or guttered for the first two inches from the point, are cylindrical, so that the urethral mucous membrane cannot be pinched and torn in withdrawing the divulsor,—an accident that I have known to occur even when the precaution of not entirely closing the blades was taken. The curve of the instrument should not exceed one-fifth of the circumference of a circle three inches and a quarter in diameter.

If you have a predilection for any of the other divulsors, you may have them modified so that they can be used with a conductor. It matters little what kind of an instrument is employed, providing the principle of divulsion is carried out, and a safe and easy cure can be effected. Different operators will have their fancies and preferences; thus Amussat, Leroy d'Etiolles, Heurteloup, Civiale, Reybard, and Mallez have devised each his "dilator," and there are others too numerous to mention.

If you will study Mr. Perrève's cases, published in his treatise of 1847, you will notice that in nearly every one the occurrence of hemorrhage is reported; sometimes only to the extent of a few drops, generally more, depending upon the size of the rod introduced. Mr. Perrève did not *dilate*, as he claims, but did *tear* these strictures, hence his success. Mr. Holt, in the second edition of his book on the "Immediate Treatment of Stricture," speaks of "*a new stricture dilator*," but afterwards confesses that he preferred to "*split*" the strictures, as the partial dilatation he had before made had given rise to "stricture fever." He was perhaps the first to prove that there was laceration instead of dilatation, as he had had an opportunity to verify this in one of his own patients, at the dead-house, where there was found a longitudinal rent along the floor of the urethra at the seat of disease. Extensive experience has since taught the profession that nothing short of complete divulsion of the stricture will ensure success, and that after all it amounts to about the same thing as an internal urethrotomy; but it is a safer operation. Therefore Sir Henry Thompson's precept of *stretching* as much and *tearing* as little as possible might well be reversed, and I will venture to say to you, *tear* as much and *stretch* as little as possible, and your results will be all the better.

Do not deceive yourselves by believing that the urethral mucous membrane is only stretched, and that the part torn is the inodular substance in the sub-mucous tissue,—an idea recently advanced. I believe that the mucous membrane is nearly, if not always, involved in organic stricture; it should be, and is torn by the divulsor. Union by granulation takes place, and the mucous membrane grows over the cicatricial splice precisely as does the skin over a cicatrizing ulcerated surface. Hence the necessity to continue indefinitely the periodical introduction of large-sized instruments. Never neglect to recommend the use of the sound for ever after this or any other method of treatment of narrow strictures of the urethra. The exclusive advocates of divulsion promise too much: beware lest you fall into that error. Prudent and judicious surgeons should not be wedded to any particular method of treatment, but should adopt whatever plan seems best suited to a given case. It requires more judgment to decide upon the mode of treatment best adapted to a particular case, than skill to carry it out.

Now come two very important practical questions: 1st, to what class of cases is divulsion applicable; and, 2d, where is it contra-indicated? The second question had better be answered first. It is not, as a general rule, to be used in narrow traumatic strictures, neither in obstructions complicated with extravasation of urine, nor in the dense intractable constrictions of the pendulous portion of the urethra; but it is known to answer well in nearly all cases of coarctation situated in the scrotal and perineal portions of the urethra, and those which do not possess the elements described among the contra-indications.

It only remains for me to relate to you some illustrative cases, treated by divulsion, in my own practice, and then I have done for to-day. I have arranged them in groups, that you may the more readily seize the points which they teach.

The first group is intended to show that divulsion and not dilatation takes place when an attempt is made to enlarge suddenly a strictured urethra from within, and that the mucous membrane as well as the sub-mucous tissue is torn. Cases II. to V.

The second, that divulsion can be effected by the cautious and gentle use of conical sounds. Cases VI. to IX.

The third, that divulsion of certain strictures in the pendulous portion of the urethra is occasionally followed by fair results. Cases X. to XII.

The fourth, that divulsion is sometimes necessary in strictures that have been dilated to a considerable extent, but in which catheterism is followed by rigors and other discomforts. Cases XIII. to XVII.

The fifth, divulsion without conductor. Cases XVIII. to XXI.

The sixth group, divulsion with conductor. Cases XXII. to XXXII.

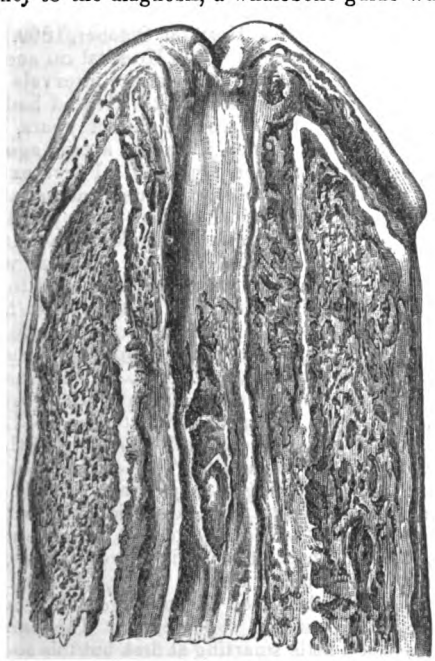
Group 1st.—Consists of four cases in which the urethra was examined with the greatest care after death.

Case II.—During the spring of 1868, I was summoned to the hospital at night, to see a man about 45 years of age, who had been suffering from retention of urine of thirty-six hours' duration. This was the consequence of a stricture of many years' standing, which had been treated, at irregular intervals, by dilatation. When I arrived at the hospital I learned that repeated trials to relieve him had been made, but with negative results. I found the patient under the influence of ether, while the House Surgeon was making an attempt, with a filiform bougie, to get through the obstruction; and the patient was bleeding considerably. Exploration with bulbous bougies revealed the existence of an extensive false passage, and also of a narrow stricture at the bulbo-membranous junction, through which a No. ½ whalebone bougie was passed, and over this Nos. 4, 5 and 6 tunnelled sounds were introduced and then Sir Henry Thompson's "dilator;" afterwards a silver catheter, No. 10, was passed, and one and a half pints of bloody urine drawn. He died on the following morning, about eight hours after I saw him. On post-mortem examination, the bladder was found greatly hypertrophied and inflamed, and the ureters and kidneys were in an advanced state of disease. In the urethra there was a false passage four inches in length, extending from about three inches of the external meatus to the prostate. The orifice of the false route was upon the floor of the canal, a little to the left of the median line, and was large enough to admit a No. 6 instrument. A number of short longitudinal rents were found through the mucous membrane at the seat of the stricture, mainly on the floor of the urethra. Divulsion was not done here as a means of cure, but merely to make way for the introduction of an evacuating catheter; he was in a hopeless condition, but it would scarcely have been humane to have allowed him to die unrelieved, and surely the death is not chargeable to the operation.

Case III. (Bellevue Hospital, May 27th, 1868.)—Wm. L., aged 32, was received into the hospital on

account of dysuria from a stricture (4½ inches down) of seven years' standing. He had had numerous attacks of retention of urine, and had been suffering much from dribbling. His urethra was unusually sensitive. Dilatation failed, and divulsion without guide was resorted to, and No. 10 sound passed. Four days after the operation he had rigors, and was extremely nervous and sensitive. On the fifth day he became delirious, and died pyæmic. The autopsy was made on the following day. A number of secondary abscesses were found in the lungs. In both kidneys there were also several abscesses. The pelves of the kidneys and the ureters were considerably dilated, and contained some slimy dark-colored pus. The bladder had undergone concentric hypertrophy, and its mucous membrane was in a state of chronic inflammation. The urethra having been laid open along its upper surface, a number of oblique and longitudinal slits or rents were found mainly upon its floor at the seat of obstruction, and extending backwards to the bulbo-membranous junction. The rents were from $\frac{1}{16}$ to $\frac{1}{4}$ of an inch in length, and involved the mucous membrane, which was somewhat thickened.

Case IV. (October, 1869.) G. P.—I was called to the medical wards of the hospital, to examine this patient and to relieve him of supposed retention of urine of two days' standing. The man was thirty years of age, and was suffering from rheumatic arthritis; his first seizure of rheumatism had come on twelve years before, and he had had in all six attacks. He stated to me that he had no desire to pass water, and had experienced none for two days. His mind seemed clear, and he conversed well. He had had gonorrhœa many years before, and had not, for several years, voided a full stream of urine. There was neither pain on pressure nor dulness upon percussion in the hypogastric region. Examination with bulbous bougies revealed a constriction, through which No. 2 could not pass, one inch and a half from the external orifice. As it was desirable to pass a catheter to give precision and certainty to the diagnosis, a whalebone guide was first



introduced, and over it No. 3 tunnelled sound, and then No. 4; a little hemorrhage ensued, and the retention catheter was passed, but only half an ounce of high-colored urine flowed. I then expressed the opinion that it was without doubt a case of suppression of urine, and advised dry cups and hot fomentations to the lumbar region, and a diluent drink, but not more than an ounce of urine was passed in the three days which he survived. Two days after I saw him he showed symptoms of uræmia, and soon became comatose. Post-mortem examination showed his kidneys to be granular and much contracted, but his ureters and bladder were healthy. The urethra was slit open, and you see that at the seat of stricture there is a longitudinal rent of the mucous and submucous membranes along the floor of the urethra, and about one and a half inches in length; this rent, with the exception of two slight bands which extend across its middle, is nearly as straight and almost as sharply cut as if it had been done with the blade of a urethrotome. (Fig. 6.) Divulsion was not here resorted to as a means of cure, but of diagnosis, for if the case had been a proper one, internal urethrotomy would have been employed in preference.

Case V.—Edw. K., aged 60, had had a number of attacks of retention of urine, and had for a long time been able to pass but a very small jet of urine. He was brought to the hospital with a fracture of the left thigh, and was at the time suffering from dribbling of urine, and no instrument could be introduced. I found a stricture 5½ inches down, which admitted but a capillary bougie. Divulsion was done with the modified Thompson's instrument. Hemorrhage moderate. No. 15 sound once a week. In the course of two months the fracture united and he was up, but afterwards became bedridden. He complained of headache, was seized with vomiting on several occasions, and finally came a low muttering delirium with increase of habitual tremor. The heart and lungs were normal, but the pulse was feeble, irregular, and intermittent. No organ could be fixed upon with certainty as diseased. He died three and a half months after the operation. The autopsy revealed a low grade of peritonitis, the abdominal viscera were glued together by recent lymph as well as old adhesions; no other lesion was observed. There had been no abdominal pain or tenderness during life. Ureters normal. The bladder was a little thickened. Prostate slightly enlarged. The divulsed portion of the urethra extended from the point of obstruction to one and a half inches backwards, and was one-eighth of an inch more in circumference than the healthy canal in front. Traces of several longitudinal rents were observable on the floor of the urethra, but showed firm cicatrization.

Group 2d.—I have already told you that divulsion could be accomplished either by the successive introduction of conical sounds beginning with small ones, or by means of instruments consisting of two parallel halves which can be separated either by a lever or set of levers acted upon by a screw at the extremity of the handle, or by rods which are introduced between the segments of the divulsor. The four cases I am about to mention will serve to illustrate the manner of proceeding with the first-named method.

Case VI.—C. H. H., a gentleman from the West Indies, aged forty-two, called upon me, three and a half years ago, to be treated for a stricture of twenty years' standing. He had been suffering for several years from painful and frequent micturition, and was straining a great deal to pass only an exceedingly small stream of urine, or sometimes a succession of drops. He had, on numerous occasions, been catheterized with small bougies, but his bladder had never been entered. His medical attendant gave him a small

flexible instrument that he might pass it himself; but he became extremely nervous, and his urethra was so irritable that he feared to make the attempt. In that state he came to me. On examination it was found that the smallest bulbous bougie would not enter a constriction situated in the sinus of the bulb. No. 1 English flexible bougie also failed to pass, but I succeeded with a slender whalebone guide, and introduced over this conductor the smallest of my tunnelled sounds, then a second, and finally a third. He was so nervous and irritable that I concluded to complete the operation at another sitting, and ordered a hip-bath, some quinine, and a diluent drink. He reported himself in three days, and the manœuvres resorted to before were repeated until a No. 12 could be introduced. Hemorrhage to the extent of half a drachm occurred. At the third sitting, wishing to pass still larger instruments, I had to make a free division of the external orifice, which had become painfully stretched on the passage of No. 12. After this Nos. 14 and 16 were introduced. He had no chill or fever after either sitting. The patient has remained well ever since, but an instrument (No. 14) has been introduced, for the first year once a week, but subsequently only once in two or three months. I saw him a few weeks ago, and he was enjoying excellent health.

Case VII.—On the 19th of October, 1866, F. R. applied to me, complaining of dysuria from stricture consequent upon a gonorrhœa contracted fifteen years previously, and aggravated by another clap caught fourteen years after the first. He had had a retention of urine, two years prior to my seeing him, which was relieved by the catheter. Exploration with the "bougie-à-boule" showed a stricture within the external orifice which would not admit No. 10, and another, 5½ inches back, through which only No. 1 would pass. An elastic English bougie, No. ¼, was introduced into the bladder and a tunnelled sound slid over it; after moderate pressure the sound passed the stricture, and was followed by others up to No. 6.

On October 22d, Nos. 6 and 7, and then successively Nos. 8, 9, and 10 steel sounds were passed; this was followed by a slight hemorrhage. Diluent, rest, etc.

On Oct. 26th, No. 11 could not be tolerated by the constriction near the external orifice; on this account, a free incision was made with Civiale's "bistouri caché," and then 11 and 12 were introduced into the bladder. On the 28th, No. 15 was passed. The sound was introduced at intervals of a week at first, but afterwards only once in six weeks or two months. He has since had another gonorrhœa. He called about a month ago (over three years after the operation), and his instrument was passed with ease.

Case VIII.—Wm. D., aged 70, was admitted into the hospital on May 10, 1867, with retention of urine of twenty hours' standing. He said he had been suffering from stricture of the urethra, from gonorrhœa, for forty years, and that he had been treated by dilatation on several occasions. He had contracted another gonorrhœa seven years prior to his coming to the hospital, since which attack his stricture had given him more trouble; and he had had several retentions. On examination, his bladder was found greatly distended, and fruitless attempts had been made to relieve it. The bulbous bougie revealed a stricture 5¼ inches from the external orifice, through which only a capillary spiral whalebone bougie could pass. Upon this conductor Nos. 4, 5, and 6 conical tunnel'ed sounds were successively introduced; the stricture, thus far only stretched, was divulsed by the passage of larger conical instruments to No. 12. A gum catheter was then passed, and three pints of urine drawn. The bladder was found to be atonied, and was treated accordingly. Sounds were used every few days, up to No. 15. He was discharged on June 1st, 1867, in excellent condition, and was passing a good stream of urine at normal intervals.

Case IX.—(Bellevue Hospital, August, 1867.) J. McM. Narrow stricture three inches from the external orifice, from gonorrhœa and from a bruise of the urethra. Several retentions, unsuccessful catheterism, false passage, dysuria, dribbling from overflow, retention. Divulsion upon whalebone conductor, with tunnelled sounds. Instruments introduced to No. 8, and subsequently increased. Good result. Case XII. is a good illustration of successful divulsion with conical sounds, after recontraction had followed the use of the two-bladed divulsor.

Group 3d.—Three cases of stricture in the pendulous portion of the urethra treated by divulsion.

Case X.—(March, 1869.) R. S. P., a gentleman forty years of age, came to consult me for a stricture of long standing, with urinary fistulæ. I was about to perform upon him the external perineal division for an obstruction 4½ inches back, but found that only No. 4 bulbous bougie could pass a stricture 2½ inches from the meatus; I therefore divulsed it freely with the modified Thompson's "dilator," and was then able to go on with the proposed operation. In the course of six weeks he left the city, after having learned to pass for himself a No. 12 sound. I heard from him four months subsequently, and he was doing well.

Case XI.—(Bellevue Hospital, April, 1869.) F. B., on whom I had performed external urethrotomy for a stricture in the perineal portion, and, some months after, internal urethrotomy for a constriction 3½ inches from the meatus, had neglected the use of the sound and had committed all sorts of excesses, reappeared eight years afterwards with fistulous openings and a very tight stricture at the seat of the last operation; for this I tried divulsion with Thompson's instrument without guide, after having dilated the coarctation to a sufficient extent to admit the divulsor. In about two months he was discharged from the hospital, and was passing No. 14 sound.

Case XII.—(Bellevue Hospital, October, 1869.) K. P., aged 38. This man entered the Hospital on account of dysuria, with constant dribbling in the intervals of micturition, which was very frequent. He had had five or six gonorrhœas in the space of eighteen years, but did not suffer in consequence till about a year ago, when symptoms of obstruction appeared. I first examined him on the 16th of October, and found a dense stricture 2¾ inches from the external orifice. At a point corresponding to the constriction, an induration extending back half an inch could be distinctly felt from without. A whalebone conductor was introduced, and tunnelled staff No. 4 passed down to the stricture, but failed to make any impression upon it. No. ¼ elastic bougie went through, and was retained in position three hours, and No. 1 was substituted, then No. 1½, and finally No. 2. Complete divulsion, to No. 18, was afterwards done with the modified Thompson's "dilator." No. 12 sound was used every second day until November 9th, when No. 10 only could be passed. The tendency to recontraction was becoming stronger, and on November 22d it was decided to repeat divulsion, but with conical sounds instead of the two-bladed instrument. Accordingly No. 5 was introduced; it was firmly grasped at the strictured point, then 7, 10, 12, 14, and 16 were cautiously passed. Free hemorrhage followed. No chill or other accident supervened. The passage of urine caused a little smarting at first, but this soon subsided.

Before the last divulsion he suffered from too frequent

micturition, but ever since he urinates, in a good stream, only four times in the twenty-four hours. No. 13 sound is now introduced once a week with facility, and the induration at the point of stricture is subsiding.* See Case IX.

Group 4th.—Five cases, in which dilatation could not be tolerated, successfully treated by divulsion.

Case XIII.—(July, 1867.) E. T., aged 28, had been under a six months' course of gradual dilatation for a stricture 5⅜ inches from the external orifice, but the coarctation remained extremely sensitive, and though it had been dilated to No. 12, showed a strong tendency to recontract whenever the use of instruments was discontinued. On that account divulsion was performed with Sir Henry Thompson's "dilator." The external meatus, which had been dilated to No. 12, became painful, and was accordingly divided, and sounds were passed at intervals of three days to No. 15, with scarcely any pain. The patient has remained well ever since.

Case XIV.—(Oct., 1867.) D. McN., aged 30. Stricture of three years' standing, 4¾ inches down, dilatation to No. 12. Sensitive urethra. Divulsion with Thompson's instrument. Sounds to No. 15. Urethra tolerant. No relapse.

Case XV.—(January, 1867.) Mr. ——, aged 40. Stricture, of long continuance, in bulbous portion. Dilatation insupportable, chills, etc. Divulsion with Thompson's instrument. Full-sized sound well borne. Good result.

Case XVI.—(January, 1869.) James C., aged 51. Stricture, of twelve years' standing, 5¾ inches down. Several courses of dilatation. Relapse from neglect. Dysuria. Failure of continuous dilatation. Divulsion, Thompson's instrument. No. 14 sound. Good result.

Case XVII.—(December, 1869.) Thomas W., aged 50. Old stricture. Retention and extravasation of urine four and a half years ago. "Perineal section." Silver catheter retained five months. Extremely irritable and sensitive urethra. Dysuria. Catheterism followed by rigors. Divulsion upon conductor (Thompson's instrument). Catheterism better tolerated. No more rigors. No. 12 every third day.

Group 5th.—Divulsion without conductor. The cases in this group were treated before I had made the modifications in Thompson's instrument.

Case XVIII.—J. M., a gentleman of excellent constitution and good habits, aged 38, was brought to me by my friend Professor J. S. Davis, of the University of Virginia, on the 26th of November, 1867. The patient was suffering from dysuria consequent upon a stricture of the urethra of ten years' standing. He had been for several days on the verge of retention of urine, but the trouble was kept at bay by rest, hip-baths, diluent drinks, opium, etc. I found him nervous, agitated, and in constant dread of complete retention. Urine had been dribbling from him for two or three days. He had made up his mind to undergo a cutting operation, if he could not be relieved otherwise. On exploration with bulbous bougies, a stricture was recognized in the region of the bulb, through which nothing would pass but a spiral whalebone bougie half a millimetre in diameter; over this a No. 4 tunnelled sound was introduced, and the canal was farther enlarged to No. 6, then a gum catheter was introduced and retained for ten hours. On the following day divulsion was performed with Thompson's instrument. Hemorrhage to about a drachm followed, and No. 12 sound was passed without difficulty. Every second day a larger sound was used, until No. 18 could easily reach the bladder. He left the city within two weeks after the operation, taking with him Nos. 16 and 17, which he has introduced once a week ever since. He now passes a full stream of urine at normal intervals, and is enjoying excellent health.

Case XIX.—(Feb., 1868.) James H., narrow stricture, 5½ inches down. Retention, relieved spontaneously. Dysuria. Preliminary dilatation with tunnelled staff upon conductor. Divulsion at the same sitting, with Thompson's dilator. Little hemorrhage. No. 11 sound. Slight rigors on second and fourth day. Sounds to No. 13, to be continued once a week. Good result.

Case XX.—(June, 1868.) Aug. M., aged 28, narrow stricture, of four years' duration, 5¼ inches down. Failure of dilatation. Dysuria. Preliminary dilatation, then divulsion (Thompson's "dilator"). Hemorrhage trifling. No. 14 once a week. Was out every day from date of operation.

Case XXI.—(Dec., 1868.) Patrick H., aged 35. Stricture of several years' standing. Failure of dilatation. Divulsion. (Thompson's "dilator.") Hemorrhage about a drachm. No. 12 once a week. Patient still under observation; has not used instruments for nearly a year. No relapse.

Divulsion should be performed with a guide whenever the stricture is very narrow, or there exist false passages. To effect this, I have a preference for the filiform whalebone bougies, because they can generally be passed with readiness where other conductors fail. When a tight stricture is encountered, it is usually recommended to tie in a delicate gum catheter or bougie, for twenty-four or forty-eight hours, in order to make way for the divulsor, but the introduction of such instruments is sometimes impracticable; the stricture is then considered impassable, and in the event of retention of urine the bladder is punctured, or else the external perineal division is done. I think that these extreme measures can frequently be set aside if the capillary guide and small conical tunnelled sounds are employed, as by this device sufficient dilatation can be made for the passage of a divulsor, and at the same sitting the bladder can be relieved and the stricture divulsed.

Group 6th, consisting of eleven cases, will show the results of the method just referred to, as applied to very close strictures. Preliminary dilatation was made, in every instance, with conical tunnelled sounds, and immediately after, divulsion to No. 18 was done by substituting the modified Thompson's "dilator" for the tunnelled sound, without removing the conductor.

Case XXII.—(March, 1869.) Dr. ——, aged 28, sought my advice for a stricture of long standing which had at times given him a great deal of trouble. He had been treated in England, and had afterwards, at irregular intervals, introduced sounds for himself, but the instruments had probably not entered the bladder, as his urethra was very sensitive and the stricture very narrow. The obstruction, seated in the region of the bulb, would not receive the smallest "bougie-à-boule." After a great deal of hesitation he submitted to the operation of divulsion, preliminary dilatation having been made with the tunnelled sounds. The hemorrhage was moderate. Sounds were then passed to No. 14. At first micturition caused some smarting, but no accident occurred, and he went away carrying with him a sound of proper curve which he promised to use once a week. He was heard from a few months ago, and was doing well.

Case XXIII.—(April, 1869.) Chs. V., aged 35. Supposed impassable stricture of seven years' standing, five inches down. Dysuria. Very frequent micturition. Extremely sensitive urethra. Preliminary dilatation

* *March 22d*, 1870.—The sound is still passed, and, thus far, the stricture shows no tendency to recontract.

with tunnelled sounds upon conductor and divulsion at the same sitting. Hemorrhage moderate. No. 14 sound once a week.

Case XXIV.—(April, 1869.) Harvey E., aged 28. Very tight stricture 5½ inches back. Retention of urine. Preliminary dilatation and divulsion at the same sitting. Slight hemorrhage. Gum catheter retained twelve hours. No. 12 sound once a week.

Case XXV.—(July, 1869.) F. F., aged 40. Narrow stricture of many years' standing. False passage. Urethra excessively sensitive. Catheterism very difficult. Preliminary dilatation and divulsion. Hemorrhage about two drachms. Sounds to No. 17. No. 10 on the next day, but no instruments could afterwards be passed, on account of increased sensitiveness of the canal. Abscess in perinæum. Urinary fistula.

Case XXVI.—(June, 1869.) Matthew K., aged 52. Stricture of long standing, 3½ inches back. Fistula in perinæo. Dysuria, etc. Tunnelled sounds and divulsion at the same sitting. Sounds to No. 11. In the course of a month urine ceased to flow through the fistulous opening. Not heard from since.

Case XXVII.—(July, 1869.) Albert M., aged 26. Stricture 5½ inches down, with perineal fistula. Was treated by dilatation about a year and a half previously, but from neglect the difficulty has returned. Dysuria becoming troublesome, he again applied for treatment. Tunnelled sounds, and divulsion. Sounds to No. 15, once a week.

Case XXVIII.—(October, 1869.) John H., aged 46. Very narrow stricture of six years' standing, 6 inches down. Retention of urine. Cystitis. Hematuria. Dysuria. Very great frequency in micturition. Dribbling. Failure of ordinary catheterism. Tunnelled sounds. Divulsion. Slight hemorrhage. No. 16 once a week. Micturition less frequent. Cystitis better for a few weeks, but recurred in the most violent form. Death three and a half months after the operation. Pyelitis (calculous?). No autopsy.

Case XXIX.—(February, 1870.) J. McG., aged 36. Tight stricture, 6½ inches down. Retention of urine. Failure of ordinary catheterism with fine bougies. Tunnelled sounds, and retention of catheter. Three pints of urine drawn off. Divulsion to No. 18. Hemorrhage moderate. Chill on following day, but no further trouble. No. 14 sound once a week.*

Case XXX.—(February, 1870.) J. S., aged 53. Stricture 4¾ inches down, supposed to be impassable, of fourteen years' standing. Dysuria. Micturition every half hour. Failure of many attempts at catheterism. tunnelled sounds with conductor. Divulsion. No. 10 sound once a week. Micturition five times in the twenty-four hours in a good stream.

Case XXXI.—(March, 1870.) Joseph C., aged 43. Stricture of nine years' standing, 5 inches down, supposed to be impassable. Dysuria. Micturition every fifteen minutes. At times dribbling. Catheterism followed by rigors. Whalebone conductor. Tunnelled sounds. Divulsion. Hemorrhage one drachm. Sound No. 14. Rigor on the following day, but no accidents. Micturition six times in the twenty-four hours.

CASE OF TRAUMATIC STRICTURE WITH FISTULA.

Case XXXII. (April, 1869.) George H., aged 28. Fracture of the pubes with laceration of the urethra. Retention in three days relieved by the catheter. Urine bloody for a week. Several retentions and finally abscess in upper part of thigh and urinary fistula. Dysuria. Micturition every fifteen minutes. Failure of catheterism. One year after the injury, stricture at bulbo-membranous junction, which would only admit No. ½. Tunnelled sound No. 3, then the modified two-bladed divulsor. Gum catheter retained for twelve hours. Sounds to No 13, once a week. In five weeks fistula healed. Micturition normal.

You will observe that, among the thirty-two cases treated, there were twenty-six successful results, one failure, and five deaths. Of the five deaths, two occurred at the end of three and a half months, and were not attributable to the operation (Cases V. and XXVIII.); one patient died of suppression of urine, with which he was affected before the operation (Case IV.); one died eight hours after divulsion, but would not probably have lived any longer had he been let alone (Case II.); and one death only (Case III.) was hastened by the operation, pyæmia having ensued.

I believe divulsion possesses great advantages over cutting operations in properly selected cases, and that it will be often resorted to where internal and external division has heretofore been employed; but it can never entirely supplant these and other methods, though it will probably continue to occupy a very prominent and important position among the surgical therapeutics of stricture of the urethra.

* Cases 29, 30, and 31 have been added to complete the series.

Progress of Medical Science.

HYPODERMIC USE OF ERGOT IN INERTIA OF THE UTERUS.—Dr. H. Ernest Schmid, of White Plains, reports the following:—Mrs. H—— was taken in labor on the second day of March. She did not send for me until 3 o'clock A.M. the following night. Her pains had been short but severe, recurring every 2 or 3 minutes. She felt them solely in the back, experiencing no down-bearing sensations whatever. I was the more astonished to find, on examination, labor far progressed, the posterior fontanelle occupying the centre of the inferior strait—the external parts well relaxed and dilatable, so as to admit of a quick completion of the remaining act of delivery. But three hours later the state of things was the same, with this one disagreeable difference, that she had no more periodical short *pains*, but only a constant severe pain in the small of the back, with not the slightest contractile action in the womb. By kneading the abdomen well with my left hand, and titillating the edges of the os with my right index finger, I could only effect a feeble contractile motion in its fibres, which again quickly subsided. Cold produced no better result. From a casual conversation I had had with her former medical attendant, who had delivered her of her first child at some distant town, I had learned that, after three days' ineffectual labor, marked by this same agonizing pain in her back, without uterine contractions, he had been obliged to extract the child with instruments, from no cause except this persistent inertia of the womb. I administered fluid extract of ergot to her, but it was of no avail whatever. While she was taking 3 drachms of it, two hours had elapsed. Then it occurred to me to give it hypodermically. I injected at once 25 minims of it in the upper outer part of her right thigh. In the course of 20 minutes a vigorous action of the uterus commenced, and with three very strong pains a fine female child was born in about 10 minutes. The placenta having been removed with very little assistance, the uterus contracted readily on itself. Although the ergot had been given by the mouth, the way in which the symptoms developed themselves strongly inclines me to the opinion that the final effect was due to the subcutaneous administration of the drug.

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QUACKERY AND THE PRESS.

THE ignorance of medical matters by the people is nowhere more manifest than in the continued countenance and support which is given by them to every shape of quackery. It certainly seems strange that even the intelligent portion of the community, composed of lawyers, clergymen, philosophers, statesmen, men of letters, and scholars, who are well enough informed on almost every other matter to prevent them from straying outside the bounds of common sense, should not only deliver themselves body and soul to the most ruinous of all humbugs, but should lend even the weight of their influence to its propagation. Men who would reason calmly on any other subject, and would decline to render an opinion concerning any point they do not understand, are ever ready to discuss a medical problem, and proclaim their views with all the boldness of rightful authority. What, however, appears still more remarkable is, that the masses should be so influenced by such opinions, in contradistinction to those who are justly entitled by education, experience, and observation to give them. Such, however, is the fact, and we must accept it.

The more influential an individual is, provided he be not a well educated physician, the more potential are his assertions in favor of a nostrum. If a popular clergyman, lawyer, lecturer, writer, or educator recommends a soothing syrup, or testifies to the wonderful properties of some throat balsam, chest invigorator, or the like, it is sufficient to insure its success. No one questions his right to an opinion on the premises, and the majority of his admirers admit his conclusions. But this has always been the case since quackery had an existence, and there has seldom been wanting even the influence of royalty to support the pretenders.

The most powerful auxiliary of quackery is undoubtedly the press;—in fact, the nostrum-venders depend so entirely upon it for support in the way of advertising themselves that without it they could do nothing. The press, in its turn, as a matter of emolument, opens its columns freely and unreservedly to any who choose to pay the cash price for such a privilege of an insertion. This practice is, as is well known, not confined to any particular class of periodicals, for even the most respectable of them eagerly bite at the bait. We doubt whether there can be found to-day, over this country of ours, more than half-a-dozen journals, religious or political, that dare refuse admission into their advertising columns of any quack nostrum that may be offered. On other points they may be orthodox enough; very many will not advertise licentious books, improper places of amusement, and not a few religious papers will go so far as to refuse the announcement of new works of fiction; but at the same time column after column of testimonials of cure by this and that remedy will appear with every issue. The very rarity of the contrary practice will warrant us in alluding in terms of commendation to the *American Agriculturist*, which for some time past has not only refused insertion to quack remedies, but has taken every pains to expose the swindling venders of the same. In the March number of this monthly is the following declaration in point:—

"In reply to many inquiries about a variety of 'doctors,' we say positively, for the fortieth time, that *not one* of the doctors for eyes, ears, private diseases, consumption—and everything else—who advertise themselves, is worthy of a moment's confidence. Write a letter to them, or let them get hold of your case in any way, and it will be 'your money or your life,'—very often *both*."

If every first-class periodical would do the same, what an influence for good could be wielded in the cause of poor credulous humanity! How many thousands of lives would be saved, and how many more would preserve the health not only of body, but of mind! But we cannot expect this; the temptation of money is too great with most of them to be resisted. We see, however, an indication of what can be done when the proper motives are at work, and we cannot do more than hope that other high-toned and influential papers may follow the example. If they cannot go thus far in actually condemning this species of medication, the profession of medicine in the interests of humanity have a right to ask that the editors of such papers will not actually endorse the evil-doers by ill-advised and voluntary commendations. These gentlemen have a responsible duty to perform in this respect as censors of the community. Their opinions on almost every question that comes up for discussion are respected, and they should be accordingly very careful how they express them, and not abuse the trusts which are reposed in them. Their sole object should be to benefit the community by pointing out to them the right paths to pursue. In almost every department of human thought this principle is consistently carried out save in medicine, the discussion of matters pertaining to which is as important as that of any other, not even excepting the national debt, political economy, municipal reform, belligerent rights, etc.

The general voice of the medical profession is in favor of informing the people on medical matters, as far as is consistent with making them the proper judges between falsehood and truth; and if the press will not consent to aid them, there is no reason why any layman connected with it should be always ready to thwart the design by venturing opinions founded on the grossest ignorance. If the general public are in search of the miraculous, there is no good reason why some "wonderful discovery in medicine" should be hatched in the brain of an itemizer to supply the demand, and then palmed off "on the authority of an eminent surgeon."

The same may be said concerning others who hold similar relations to the public, if such believe that So and So's pain-killer is a cure-all, or that the soothing syrup is a boon to poor suffering infants, or that some worm-killer is perfectly safe, or that a balsam is a sovereign remedy for all lung diseases, etc.; let them recollect that in the matter of opinion on such subjects they are out of their depth, and by ventilating the same nothing but harm can come to such as may foolishly trust in their judgment.

The profession are not ashamed of the truth in medicine, but are jealous of the influences which may grow out of the propagation of falsehood. The safest way to give medical facts to the community is to quote them from some medical journal of standing, or entrust them to the discrimination of some medical gentleman who can consistently comment upon them if he deems it necessary. This, we are happy to say, is done with some journals, among which is the one we have previously quoted, which is fortunate enough to have a thoroughly educated physician on its editorial staff.

Reviews and Notices of Books.

THE JOURNAL OF THE GYNÆCOLOGICAL SOCIETY OF BOSTON. Edited by W. LEWIS, H. R. STORER, and G. H. BIXBY. Vol I. July to December, 1869. Boston: James Campbell, 18 Tremont street.

THIS journal is issued monthly, and is a faithful record of the views, discussions, and experiences of the gentlemen composing the Gynæcological Society of Boston. Many of these opinions are of much practical interest to the profession at large. Many of the cases and operations reported are highly instructive, and the treatment, both surgical and medical, is often different from that to which the profession are accustomed. It is generally rather heroic, but it may perhaps be questioned whether it is better or worse for the patient than the treatment commonly adopted. The members of the Society claim that they are progressive, and they sometimes claim it rather loudly, so that we are not surprised to find some peculiarities in their means of cure. There is one therapeutic measure suggested, however, the very mention of which must occasion both surprise and disgust. We allude to the remarks made by Dr. Field regarding a case of erotomania, presented by Dr. Storer (July No.), to the effect that sexual hard labor at a house of prostitution might prove the patient's salvation. To the same unhappy patient Dr. Storer had "jokingly" said "he believed he should have to sew up her vulva closely." Surely a decent regard for the proprieties of life and language is due even from the most progressive gynæcologists.

We have also some little fault to find with the egotistic tone of the journal. It may have been in good taste for the various editors to parade their respective biographies before the public at the outset of their labors, but for our own part we should rather know them by their fruits than by their biographic leaves. There is too much fondness shown for personalities and for personal controversies of no interest whatever to the profession. We hope that time will remedy these and all other defects, for the journal contains a large amount of valuable original matter, and we cannot but recognize it as a bold, energetic, and prosperous contemporary.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

STATED MEETING, MARCH 9, 1870.

DR. JOSEPH C. HUTCHISON, PRESIDENT, in the Chair.

THE Committee on Microscopy reported Dr. Sayre's cases of supposed cancer of the abdominal organs to be tuberculous in character, Dr. Finnell's case of uterine tumor to be polypoid, and Dr. Smith's specimens of infant lung to be catarrhal lobular pneumonia.

COMPLETE FATTY DEGENERATION OF MUSCLES OF CALF OF LEG.

DR. MASON exhibited a specimen of complete fatty degeneration of the muscles of the calf, removed from a middle-aged dissecting-room subject, supposed to have had paraplegia for a long time. There was also found Pott's disease of the three last dorsal.

SIMPLE HYPERTROPHY OF HEART—GASTRITIS—DEATH FROM INEBRIETY.

DR. FINNELL presented the heart, kidneys, and a portion of the liver, removed from the body of a physician of this city. The gentleman, in consequence of the loss of a considerable amount of money in a mining speculation, became so despondent that he fell into habits of intoxication. His favorite beverage was gin, of which he took very large quantities. He finally suffered from a very severe attack of *delirium tremens*, during the recovery from which he was seized with formidable gastritis. The stomach being incapable of tolerating any food, he was urged by his medical friends to fast for a few days, but to such little purpose, that the moment they would leave him he would send for the most indigestible dishes, and devour them with a maniacal avidity. The gastric irritation was constantly increased, when he finally died with asthenia. At the autopsy, the heart was found to be the seat of simple hypertrophy, the liver was in a state of fatty degeneration, and the kidneys were granular.

A second specimen by Dr. Finnell was fragments of gall-stone, presented on behalf of Dr. Fanning, of Tarrytown, removed from a lady, seventy-one years of age, who died of cholæmia.

THE PLACENTAL DECIDUA.

A third specimen was a uterus, taken from the body of a woman thirty-eight years of age. She was the mother of several children, and had an accidental abortion in the sixth month of utero-gestation. As she had been attended by an irregular practitioner, and as there had been some suspicions of foul play, the case was turned over to the coroner. It was evident, however, on examination, that there was nothing wrong in the

case, but that immediately after the delivery she had been seized with uterine phlebitis, of which she died. A plentiful supply of pus was found on section in the uterine veins. The internal surface of the uterus presented a mamillated appearance, resembling an adherent placenta.

Dr. Rogers thought that such a condition was due to the presence of the placental decidua.

COMPOUND COMPLICATED FRACTURE OF SKULL WITHOUT SYMPTOMS.

Dr. Sayre exhibited some fragments of bone removed by operation from the cranium of an Irishman, aged thirty-six, who had been injured by an explosion of nitro-glycerine in Melrose, Westchester County. He found the patient, shortly after the accident, perfectly conscious, pupils natural, and, aside from a slow pulse (sixty), there was nothing peculiar about his general symptoms. Behind the right parietal bos were a number of small scalp-wounds, only separated from each other by small bridles of tissue. These latter were divided with a scalpel, when it was discovered that a considerable portion of the parietal bone posterior to the bos was depressed. This was elevated, and afterwards found composed of a large number of splinters, which were duly removed. Immediately underneath, on the surface of the brain, was a large clot of blood, three or four ounces in quantity, evidently from the middle meningeal artery, which, being scooped out with the spoon, allowed the brain to come up to its normal position. Before the doctor left the house, the patient was by the stove, in an adjoining room, smoking his pipe. At last accounts the patient was doing well, not having, save perhaps the slow pulse, an unpleasant symptom. In connection with this case, he referred to one mentioned by Dr. Parker in his lectures, in which a man had received an extensive depressed fracture of the frontal bone from the kick of a horse, and in which, likewise, no cerebral symptoms showed themselves.

Dr. Hutchison alluded to a somewhat similar case which had come under his observation—that of a boy, who fractured his skull through the whole thickness of the bone, accompanying which was marked depression. The fragment was elevated, and the patient rapidly recovered. In this instance there were no symptoms whatever of depression, or even concussion, notwithstanding considerable blood had been effused.

MULTIPLE TUMORS.—CAN CANCER DISAPPEAR SPONTANEOUSLY?

Dr. Watts presented several portions of the body of a patient with the following history, for which he was indebted to Dr. F. Simrock, who had the patient under observation up to the time of his transfer to the small-pox hospital:—

Peter Ries, aged thirty-three years, a German, a cabinet-maker, applied at the Department for Skin Diseases of the German Dispensary on the 27th of April, 1869, on account of the appearance of several black tumors on different parts of the surface of the body. Some of these little tumors, whose size at that time did not exceed that of a silver sixpence, were seated in the uppermost layers of the cutis and appeared quite black; others were seated in the lower parts of the cutis and subcutaneous cellular tissue, where they could be detected rather by their hard consistency than by their blackish hue, shining through the intact cutis, which was still movable over them. The patient's father died of dropsy, and his mother of cancer of the stomach. The rest of his family are healthy.

The patient stated that he had had, from his earliest childhood, a pigmentary nævus (mole), of the size of a small bean, situated over the angle of the left scapula, which, without any known cause, began to grow larger about two months before, and had then attained the size of an egg. The first melanotic tumors developed right in the vicinity of this mole.

From the first day when he applied for treatment, up to the very last day of his being under observation (a period of about eight months), not a day passed without new tumors being detected, either on the surface of the body or inside the cavities of the mouth, larynx, or ear. From close observation of hundreds of these melanotic tumors in the skin, Dr. Simrock states that they all took their origin from the subcutaneous tissue, and encroached upon the cutis only after they had attained a certain size, until finally they reached the surface of the skin by thinning its elements by pressure from below. As soon as the growths reached the surface they began to undergo marked retrogressive metamorphosis, and shrivelling up and decaying, they gradually disappeared, and left only a black mark as indicating their former presence; and in some cases even this last dark pigmentary discoloration was observed to fade away, leaving the skin only of a somewhat darker hue than in the surrounding parts.

In some instances the surface of the tumors became ulcerated, and a scab formed over them which finally desquamated, leaving only a discolored surface beneath. A few tumors were also observed which showed no pigmentation. About two months after the first came under observation he began to complain of his eyesight, and specially of soreness of the left eye, when the existence of a melanotic tumor of the size of a large pin's head was detected in the inner and upper half of the iris. The ophthalmoscope revealed nothing of importance in the other tissues of the eye, except a high degree of vascular ciliary and retinal irritation, to which the diminution of his visual power in that eye to one-seventh must be ascribed. In a very short time, about fourteen days, the iritic tumor developed to its utmost size—about the diameter of a large pea—and then in about the same length of time it ran through its retrogressive stage, until finally only some extremely slight discoloration of the affected spot could be observed. In direct ratio with the retrogression of the tumor the visual troubles decreased, and when the tumor had entirely disappeared the vision was about normal.

Such was not the course of the disease in the right eye, which at the time it was first examined had vision equal five-sixths. The ophthalmoscope revealed the existence of a morbid process in the deeper parts of this eye, the details of which, however, could not be made out, owing to turbidity of the vitreous humor, and especially to the presence of large floating bodies in the equatorial zone of the corpus vitreum.

A normal field of vision and no increased tension of the globe argued against the probability of a tumor developing in the posterior part of the eye. The choroidal process, unimportant as it was in the commencement, made constant progress, and certainly contributed more toward the total occlusion and adhesion of the pupil, than did the subsequent development of a melanotic growth in the iris of this eye. This growth in the right eye was of about the same size as that in the left, but its appearance was accompanied by a good deal more irritation, in consequence of the serious changes which had already occurred in the eye previous to its development. The vision in this eye became reduced to only quantitative perception of light.

(An examination of the eyes to ascertain the lesions has not yet been made.)

The patient's general condition underwent no marked change for the worse until some large tumors developed

in the tongue, the painful condition of which materially interfered with mastication and deglutition, and this began to tell on his nutrition.

Up to the latter half of October the man continued to work at his trade and had not lost a single day. About that time he became feverish and was admitted to the German Hospital. While there a varioloid eruption appeared, and he was transferred to the Small-pox Hospital, on Blackwell's Island, on December 13th, 1869.

The patient had a mild attack of varioloid, from which he recovered without any untoward symptom, but he failed steadily in strength afterwards. One of the melanotic tumors on the right side of the tongue near its root was very deeply ulcerated, and so painful that it was difficult for him even to swallow. The surface of the body was covered with innumerable black tumors varying in size from that of a small shot to that of a hickory-nut. The small-pox pustules developed upon these tumors as well as in the surrounding healthy skin, and ran the same course in both situations. The skin became of a grayish-yellow color and greasy appearance, and emitted a heavy, sickening odor, entirely different from that produced by small-pox.

Without the development of any special symptoms he gradually failed in strength, and died exhausted on January 13th, 1870.

Dr. Simrock says: "The diagnosis of the character of all these metastatic tumors was based upon the microscopic examination of the primary one, and of several others which were taken out for the purpose. The primary tumor, from the back, proved to be true sarcoma, in the formation of which the fusiform and round cells equally participated. Pigmentary particles I was not able to see in any of the sarcomatous cells. The pigmentary part of the tumor was entirely intercellular, and appeared in the form of irregularly shaped particles and cakes of different tinges, from blood-red to deep black, in the formation of which the extravasated and stagnated blood may have had its part. The other constituents of the tumors (such as the large quantity of fibrous tissues and sudoriparous glands) must be considered as accessory ones, owing to the place of their insertion and their subsequent development through the elements of the skin.

"One small tumor, the size of a bean, was extirpated from the inner side of the left humerus, and showed the same small sarcomatous elements as the primary one, with pigmentary interspersion as the chief characteristic part of its constituents.

"Two particles were removed from tumors which afterwards disappeared almost entirely, leaving only a discoloration of the skin. One of these was from the ear and the other from the eyelid, and in both the same characteristic elements of sarcoma were undoubtedly prevalent.

"If late microscopical examinations corroborate my diagnosis of true sarcoma, then its spontaneous disappearance will prove a precious experience to the ophthalmologist and pathologist. Virchow remarks in his book on tumors 'that up to this time he knows of no well-proved case of sarcoma having spontaneously disappeared.'"

The following is the history of the post-mortem examination made by Dr. Eno, Asst. Curator of Charity Hospital:—

Autopsy 36 hours after death. No rigor mortis. Body below medium size, thin, but not extremely emaciated. Color of skin dark, and upon the face and neck almost olive. The whole surface of the body spotted with black tumors, varying in size from that of a pin's head to that of a half-dollar, generally rounded in form, and projecting about ¼ inch above the surface, smaller upon the neck and face, and largest upon the trunk. Very small tumors also observed upon the conjunctiva: none upon the scalp, and none in or under the nails.

Head.—Black tumors on both surfaces of the dura mater, those on the outer surface following the course of the vessels, also on the falx cerebri. Calvarium covered with pigment in spots corresponding to the tumors on the dura mater.

The arachnoid covering the convexity of the brain thickened and opaque generally along the course of the vessels, and in spots.

Melanotic tumors generally small in the substance of the brain, larger upon the surface, and upon the walls of the lateral ventricles.

Thorax.—Pleuræ, both parietal and visceral, and also the pericardium, studded with small black masses. Heart weighed 14 oz. Walls of left ventricle very thick. External surfaces covered with pigment spots, some projecting, others not. In the substance of the heart the pigment seemed to follow the course of the muscular fibres. The columnæ carneæ, as well as all the internal surface of the organ, were mottled with similar masses, but not the valves nor the aorta or pulmonary artery.

Lungs.—Old adhesions on right side, and lower lobe in first stage of pneumonia. A few small cicatrices at apex of left lung.

Both lungs infiltrated with pigment matter throughout. Mucous surface of larger bronchial tubes contained spots of pigment. Bronchial glands enlarged and black.

The diaphragm contained melanotic tumors on both surfaces and in its substance, as did also the peritonæum, both visceral and parietal, the omentum, the stomach, the intestines, large and small, the pancreas, and the mesenteric glands, which were also enlarged.

The spleen weighed 6 oz., dark in color, and firm.

The liver weighed 3 lbs. 9 oz., dark in color, containing many small tumors, especially near the surface, and in the thin portion. There was one large one in the right lobe, of the size of a walnut, and extending ¾ inch into the substance.

Kidneys.—Left 3 oz. Right 7½ oz. Pelves, especially that of the left, spotted with little black tumors. The substance of the organs, especially the cortical portion, much pigmented. Pyramidal portions comparatively free from deposit.

The internal surface of urethra and bladder studded with small melanotic tumors,—a few also in substance of the corpora cavernosa and prostate gland. Similar tumors were found also in the testicles, and in the tissues of the cord.

The muscles throughout the body, wherever examined (neck, chest, abdomen, back, thigh, lower extremities, &c.), were infiltrated with the same black pigment, which followed to a marked extent the course of the muscular fibres. On making longitudinal section of the femur, black masses were also seen imbedded in the cancellous tissue of the bone.

Dr. Francis Delafield, M.D., has kindly furnished me with the following result of the microscopic examinations of the tumors from various localities, made by himself:—

"In the *Lung* the pigment is in the shape of fine granules, in the walls of the alveoli and bronchi, and in the large round cells ordinarily found adhering to the walls of the alveoli.

"In the *Kidney* the pigment is deposited in granules, and enclosed in small round cells in the stroma, especially in the cortical portion, and follows the vessels in the pyramids.

"In the *Omentum* the pigment is contained in round

and oval cells heaped together. Pigment is also contained in many of the scattered oval cells of the connective tissue.

"In the *Intestines* the pigment is contained in small round cells in the sub-mucous and sub-peritoneal connective tissue.

"In the *Skin* there are small black nodules in the cutis, and irregular masses in the subjacent connective tissue. The pigment is infiltrated in granules, and also contained in round and ovoid cells.

"In the *Muscles* the pigment is infiltrated in granules in the connective tissue, and is also contained in ovoid and fusiform cells.

"In the *Stomach* the pigment forms masses in the mucous membrane, and projecting from its internal surface. The smallest nodules are composed of round cells containing pigment, and situated in the deep layers of the mucous membrane.

"In the *Dura Mater* the pigment forms masses projecting on the internal surface, and also in the membrane itself: here also the pigment is contained in round cells.

"So far as these specimens go, the disease is simple, multiple melanosis."

FATTY LIVER FROM METAMORPHOSIS.

Dr. Robert Newman presented specimens on behalf of Dr. Lewis Smith, taken from the body of an infant six months old, who died four days before. It had a slight diarrhœa for some time, when two weeks before its death the upper and lower extremities became anasarcous. The face was slightly œdematous, but there was no effusion in either the thorax or abdomen. There was also some purpura present, as well as a slight cough. Death was the result of asthenia.

At the autopsy the liver was found unusually large, weighing ten and a half ounces, and intensely fatty. The tissue of this organ under the microscope was found almost entirely devoid of liver-cells, these being only in the proportion of one-eighth of the whole, leading to the conclusion that the disease was due to a metamorphosis of the cells into fatty matter, rather than to a deposit of the material between them, and into their substance. The gall-bladder was filled with healthy bile, showing that there had been no interruption to the secretion. The kidneys and heart were perfectly healthy. The anterior portion of superior lobe of right lung was the seat of a circumscribed pneumonia which accounted for the cough. The inflammation was of the catarrhal variety. The follicles of the colon were somewhat enlarged, and its mucous membrane presented some circumscribed spots of inflammation. Entero-colitis was diagnosticated during life.

INVAGINATION OF INTESTINE IN CAMEL.

Dr. F. Delafield presented a portion of the intestine of a camel, which animal died in the city, the specimen having been presented to Prof. Wood's Museum. The small intestine about its middle was the seat of a complete invagination. Between the peritoneal and muscular coats was a deposit of a thick clot of blood, while there were numerous patches of recent lymph on the peritoneal surface.

IDIOPATHIC CROUPOUS INFLAMMATION OF STOMACH.

Dr. Delafield also exhibited a stomach for which he was indebted to Dr. A. L. Loomis. The following history was taken from the hospital records:—David Adams, 47, Ireland, boiler maker, admitted Jan. 3, 1870. Partly deaf 30 years. Well up to 6 days before death, when he caught cold, got better; 3 days after, another cold, pains over bowels, constipation, cough, white frothy sputa, face flushed, temp. 102½, pulse 120, friction sound over lower part of right lung, tenderness over liver. Jan. 7. Temp. 101, pulse 112, tongue dry, abdomen tympanitic and tender. 3 P.M. Syncope, ½ hour died.

Autopsy.—No lesion found in the thoracic viscera, save a slight effusion in the bronchi. Over the lesser curvature of the stomach, extending from the anterior to the posterior walls, and from near the duodenum to the œsophagus, was a deposit of a thick membranous material. Where this deposit was most extensive the coats of the stomach were thickened, otherwise there was no change in the organ. The deposit was easily detached and minutely examined; was found made up of coagulated fibrine, entangled in which was a moderate amount of lymphoid cells. This layer of coagulated fibrine and cells was closely adherent to the surface of the mucous membrane and dipped down into the mouths of the follicles. Furthermore, there were a number of lymphoid cells in the connective tissue between the follicles, also the same cells with a variable amount of coagulable fibrine in the submucous connective tissue, and the same cells but in small quantities in the muscular coat. The peritoneal coat presented no change. This was then an example of marked croupous inflammation, with a distinct croupous false membrane formed upon the stomach, occurring in a man with a sufficiently complete history to enable us exclude those diseases in which such lesions have been found to exist. As far as he knew to the contrary, this lesion was only a concomitant of exhausting diseases, and had never been described as occurring idiopathically.

HEMORRHAGE AFTER ACUPRESSURE, ETC.

Dr. Hutchison exhibited a portion of artery as forming a part of the history of acupressure. It was removed from a man fifty-four years of age, whose leg had been amputated for compound comminuted fracture. The anterior and posterior tibial arteries were closed by acupressure, the second and fifth methods having been employed. The peroneal artery was closed by torsion. This man was of feeble constitution, and copious suppuration and sloughing occurred in the wound. On the ninth day after the operation profuse secondary hemorrhage took place, which was arrested by the application of the tourniquet, which instrument was kept on for several hours. Subsequently symptoms of pyæmia appeared and death occurred thirty days after the operation.

The specimen illustrated the effects of acupressure thirty days after the application of the needle. The anterior and posterior tibials were closed with plugs,—reddish clots,—which were quite firm but not very adherent to the lining membranes of the vessels. The orifices were closed by lymph, but not so firmly as usual.

He remarked that he was unable to satisfy himself as to the source of the hemorrhage, but was content to present the facts of the case.

The Society then went into Executive Session.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, March 7, 1870.

Dr. George T. Elliot, President, in the Chair.

The President announced the admission to membership of Drs. Morton Folsom, David Coles Carr, and John Dwyer; also the death of Dr. Charles McCaffry, a member of the Society since 1831.

The Report of the Committee on Intelligence was read by Dr. Thompson, and that of the Committee on Diseases by Dr. Raborg.

PROGNOSIS IN CHRONIC DISEASES OF THE HEART.

Dr. Austin Flint, Sen., read an extended paper upon this subject, which will appear in the *New York Medical Journal* for May. In our brief abstract, for which we are indebted to the courtesy of its editor, we shall only indicate a few of the prominent points.

The prognosis in cases of organic disease of the heart becomes a matter of great importance, from the wide-spread belief among the laity, shared also by too many physicians who have inherited the error from a past generation, that all such cases are liable to terminate at any moment in sudden death. Hence the moral effect upon a patient, of informing him that he has heart-disease, unless at the same time we can convince him of the erroneousness of the popular notions upon the subject, may be such as not only to render his life one of constant apprehension, but even materially to shorten it, from the reaction of this state of mind upon the general health.

With our present means of physical diagnosis, heart-lesions can be discriminated with more accuracy than almost any others. But the clear recognition of the lesions in a given case, though indispensable, is yet of itself by no means a sufficient basis for the prognosis, which must be broadly founded, as well, upon the lessons of clinical experience. These have taught us to take into account not only the differing gravity of different lesions (some of them being often nearly innocuous), but also the many and important modifying conditions in the individual cases of the same lesion. Our limits forbid us to follow the paper through its account of these lesions and conditions; of how one lesion may be conservative in preventing the evil effects of another (hypertrophy, for example, compensating for obstructive or regurgitant valvular affections, and *vice versâ*; one valvular affection diminishing the dangers from another, etc.); of how disorders purely functional may be mistakenly attributed to a coincident but comparatively unimportant organic disease, and the means of diagnosis in these often difficult cases; of the great weight to be attached to the existence of predominant dilatation, or of fatty degeneration, in determining the gravity of the prognosis.

A topic dwelt upon at length was the great difference in the tolerance of organic affections manifested by different persons. Many a man with what might appear a grave lesion would go on for years unconscious of the fact, living freely, and engaged in active pursuits, until impelled to relinquish his usual habits from discovery of the disease, or forced to do so from other causes, when he would fall into a rapid decline.

In general terms, heart-diseases, like other chronic maladies, are best tolerated when the functions of the body, exclusive of the diseased organs, are kept in a state of healthful activity. To secure this should therefore be our great object in the management of these cases; and upon a wise management the prognosis will in no small degree depend.

In conclusion, the paper treated exhaustively the subject of the liability to *sudden* death from cardiac affections, showing what conditions involved the greatest liability to this event, and their rarity as compared with the great majority of cases of heart-disease.

Dr. Alfred L. Loomis, after presenting a specimen of Thrombi of the Coronary Arteries,* referred to by Dr. Flint, made the following remarks:—

Mr. President: The subject which has been brought before us this evening necessarily elicits a great diversity of opinion; for as yet there are no fixed clinical and pathological data upon which to rest; each observer and writer on this subject holds opinions of his own, based on his personal observation.

It seems to me the questions to be asked and answered are—First, Does heart disease ever directly cause death? second, If so, is it a frequent cause of death? and, third, Is it ever a cause of sudden death? As an answer to some of these inquiries, permit me to present the results of ninety autopsies (in all of which heart-lesions were found) compiled from the post-mortem register of Bellevue Hospital, by my Junior Assistant, Dr. B. D. Taylor.

A Synopsis of the Record of Autopsies made at Bellevue Hospital since June 1st, 1868, in which Valvular Lesions, Hypertrophy, and Dilatation of the Heart, Lesions of the Coronary Arteries, and Cardiac Thrombi were found—setting forth the suddenness of Death, or otherwise, and its causes.

I. HYPERTROPHY AND DILATATION WITH VALVULAR LESIONS.

Case 1. Hypertrophy and slight dilatation. Mitral valves atheromatous. Death *gradual* from Bright's Disease.

Case 2. Hypertrophy and dilatation of right heart. Dilatation of left cavities. Atheroma of aortic and mitral valves. Death *gradual* from Bright's Disease.

Case 3. Hypertrophy and dilatation, with aortic insufficiency. Death *gradual* from Bright's Disease.

Case 4. Hypertrophy (1 lb. 11 oz.). All cavities dilated. Mitral valve thickened. Tricuspid thickened and insufficient. Death *gradual* from Pericarditis.

Case 5. Hypertrophy and dilatation. Vegetations on aortic valves. Mitral valve thickened and orifice stenosed. Death *gradual* from Uræmia.

Case 6. Hypertrophy and dilatation. Aortic valves thickened and insufficient. Mitral thickened. Death *gradual* from Phthisis.

Case 7. Hypertrophy and dilatation. Aortic valves calcified. Tricuspid atheromatous and orifice stenosed. Death *gradual* from Pneumonia.

Case 8*. *Hypertrophy and dilatation of left ventricle. Vegetations on aortic valves. Thoracic aorta atheromatous. Death* gradual *from Heart-lesion.*

Case 9. *Hypertrophy and dilatation of right heart. Mitral stenosis* (⅜ *in.*). *Death* gradual *from Heart-lesion.*

Case 10. *Hypertrophy and dilatation of right heart and left auricle. Mitral stenosis* (½ *in.*). *Death* gradual *from Heart-lesion.*

Case 11. *Hypertrophy* (1 *lb.* 6 *oz.*). *Dilatation of all cavities. Aortic stenosis and insufficiency. Mitral valve thickened and insufficient. Death* gradual *from Heart-lesion.*

Case 12. *Hypertrophy and dilatation. Mitral valve thickened and orifice stenosed* (½ *in.*). *Death* gradual *from Heart-lesion.*

Case 13. *Hypertrophy and dilatation. Mitral and Tricuspid valves atheromatous and insufficient. Death* gradual *from Heart-lesion.*

Case 14. *Hypertrophy* (1 *lb.* 15 *oz.*). *Dilatation of both ventricles. Mitral and Tricuspid orifices stenosed. Death* sudden *from Heart-lesion.*

Summary.—14 cases:—*7 deaths from Heart-lesion,* 1 of them *sudden.* No sudden deaths from other lesions.

II. HYPERTROPHY WITH VALVULAR OR OTHER LESIONS.

Case 1. Hypertrophy. Aortic and Mitral valves thickened. Death *gradual* from Bright's Disease.

* For description and history, see Report of Pathological Society in last number of Record, pp. 40, 41.

* Where death resulted from heart-lesions the records are in Italics.

Case 2. Hypertrophy. Aortic valves thinned. Aorta atheromatous. Death *gradual* from Bright's Disease.

Case 3. Hypertrophy left ventricle. Aortic valves fenestrated. Death *gradual* from Acute Meningitis.

Case 4. Hypertrophy. Aortic valves and Aorta calcified. Death *sudden* from Uræmic Convulsion.

Case 5. *Hypertrophy. Aortic valves thick and rigid. Mitral stenosis from vegetations. Death* gradual *from Heart-lesion.*

Case 6. *Hypertrophy. Aortic and Mitral valves atheromatous. Death* gradual *from Heart-lesion.*

Case 7. *Hypertrophy. Aortic and Mitral valves atheromatous. Aorta and Pulmonary artery dilated. Death* gradual *from Heart-lesion.*

Case 8. *Hypertrophy. Aortic and Mitral valves and Arch of Aorta calcified. Death* gradual *from Heart-lesion.*

Case 9. *Aortic and Mitral valves atheromatous, and latter orifice stenosed. Death* gradual *from the Heart-lesion.*

Case 10. *Hypertrophy. Aortic valves calcified and stenosis of the orifice. Death* gradual *from Heart-lesion.*

Case 11. *Hypertrophy. Aortic valves calcified, and stenosis of orifice. Death* sudden *by Syncope.*

Case 12. *Hypertrophy. Mitral valve thickened and rough, free regurgitation. Death* sudden *from Heart-lesion.*

Case 13. *Hypertrophy. Mitral and Tricuspid valves atheromatous. Death* sudden *from Heart-lesion.*

Case 14. *Hypertrophy. Aortic and Mitral valves and whole Aorta atheromatous. Death* sudden *from Heart-lesion.*

Case 15. *Hypertrophy. Mitral and Pulmonic valves rigid. Death* sudden *from Heart-lesion.*

Summary.—15 cases:—11 *deaths from Heart-lesion*, 5 of them *sudden*. 1 *sudden* death from Uræmic Convulsion.

III. DILATATION WITH VALVULAR OR OTHER LESIONS.

Case 1. Dilatation of right ventricle. Mitral valve insufficient. Death *gradual* from Bright's Disease.

Case 2. Dilatation of all cavities. Aortic valves thickened and insufficient. Mitral same, and nearly all the chordæ tendineæ ruptured. Death *sudden* from Uræmic Convulsion.

Case 3. *Dilatation of right heart. Mitral valve thickened and orifice stenosed (½ in.). Tricuspid valve thickened and rough. Death* gradual *from Heart-lesion.*

Case 4. *Same lesions and termination as in No.* 3.

Case 5. *Dilatation of both auricles (especially left). Aortic and Mitral valves thickened, and stenosis of latter orifice. Death* sudden *from Heart-lesion.*

Case 6. *Dilatation. Aortic and Mitral valves thickened and covered with vegetations; former insufficient. Tricuspid covered with vegetations. Death* sudden *from Heart-lesion.*

Summary.—6 cases:—4 *deaths from heart-lesion*, 2 of them *sudden*. 1 *sudden* death from Uræmic Convulsion.

IV. VALVULAR LESIONS.

(*a.*) *Aortic, Mitral, and Tricuspid.*

Case 1. Aortic, Mitral, and Tricuspid valves thickened. Death *gradual* from Bright's Disease.

Case 2. Aortic and Mitral valves calcified. Tricuspid malformed and fenestrated. Death *gradual* from Gangrene of Lung.

(*b.*) *Aortic and Pulmonic.*

Case 3. Aortic and Pulmonic valves fenestrated. Death *gradual* from Phthisis.

Case 4. Aortic and Pulmonic valves fenestrated. Death *gradual* from Phthisis.

Case 5. Aortic and Pulmonic valves fenestrated. Death *gradual* from Gangrene of Lung.

(*c.*) *Aortic and Mitral.*

Case 6. Aortic and Mitral valves calcified. Death *gradual* from Bright's Disease.

Case 7. Aortic and Mitral valves calcified. Death *gradual* from Phthisis.

Case 8. Aortic and Mitral valves calcified. Death *gradual* from Phthisis.

Case 9. Aortic and Mitral valves calcified. Death *gradual* from Pneumonia.

Case 10. Aortic and Mitral valves calcified. Death *gradual* from Œdema Glottidis.

Case 11. Aortic valves covered with vegetations. Mitral valve insufficient. Death *gradual* from Bright's Disease.

Case 12. Aortic valves thick and fenestrated. Mitral valve covered with vegetations. Death *gradual* from Subacute Meningitis.

Case 13. Aortic and Mitral valves calcified. Death *gradual* from Delirium Tremens.

Case 14. Aortic and Mitral valves thickened and covered with vegetations. Death *gradual* from Apoplexy.

Case 15. Aortic and Mitral valves calcified. Death *sudden* from Croupous Laryngitis.

Case 16. Aortic valves covered with vegetations. Mitral valve insufficient. Death *sudden* from Uræmic Convulsion.

Case 17. Aortic valves and Aorta calcified. Mitral insufficient. Death *sudden* from Apoplexy.

Case 18. *Aortic and Mitral valves calcified, and fenestration of the former. Whole Aorta calcified. Death* gradual *from Heart-lesion.*

Case 19. *Aortic valves calcified. Mitral orifice stenosed. Death* gradual *from Heart-lesion.*

(*d.*) *Aortic.*

Case 20. Aortic valves thickened. Death *gradual* from Cholæmia.

Case 21. Aortic valves and Aorta atheromatous. Death *gradual* from Cerebral Softening.

Case 22. Aortic valves calcified. Death *gradual* from Phthisis.

Case 23. Aortic valves calcified. Death *gradual* from Phthisis.

Case 24. Aortic valves calcified and fenestrated. Death *gradual* from Phthisis.

Case 25. Aortic valves calcified. Death *gradual* from Bright's Disease.

Case 26. Aortic valves calcified. Death *gradual* from Bright's Disease.

Case 27. Aortic valves calcified. Death *gradual* from Bright's Disease.

Case 28. Aortic valves calcified. Death *gradual* from Pneumonia.

Case 29. Aortic valves and Aorta calcified. Death *gradual* from Pneumonia.

Case 30. Aortic valves calcified. Death *gradual* from Gangrene of Lung.

Case 31. Aortic valves calcified. Death *gradual* from Pyæmia.

Case 32. Aortic valves calcified. Death *gradual* from Cerebro-Spinal Meningitis.

Case 33. Aortic valves covered with vegetations. Death *sudden* from firm and short old Pericardiac Adhesions.

Case 34. Aortic valves perfectly rigid. Death *sudden* from Cerebral Apoplexy.

(*e.*) *Mitral.*

Case 35. Mitral valve calcified. Death *gradual* from Puerperal Peritonitis.

Case 36. Mitral valve calcified. Death *gradual* from Pneumonia.

Case 37. Mitral valve calcified. Death *gradual* from Pneumonia.

Case 38. Mitral valve calcified. Death *gradual* from Pneumonia.

Case 39. Mitral valve calcified. Death *gradual* from Phthisis.

Case 40. Mitral valve calcified. Death *gradual* from Phthisis.

Case 41. Mitral valve calcified. Death *gradual* from Phthisis.

Case 42. Mitral valve calcified. Death *gradual* from Phthisis.

Case 43. Mitral valve calcified. Death *gradual* from Septicæmia.

Case 44. Mitral valve calcified. Death *gradual* from Pyæmia.

Case 45. Mitral valve calcified and stenosed. Death *sudden* from Apoplexy.

Case 46. Mitral valve calcified. Death *sudden* from Apoplexy.

Summary.—46 cases:—2 *deaths from Heart-Lesion*, neither of them sudden. 7 deaths *sudden:* 4 from Cerebral Apoplexy, 1 from Uræmic Convulsions, 1 from Croupous Laryngitis, and 1 from old Pericardiac Adhesions.

V. LESIONS OF CORONARY ARTERIES.

Case 1. Coronary Arteries ossified. Aortic and Mitral valves calcified. Died comatose from inflammation of the lining membrane of the ventricles of the brain and nervous tissue adjacent.

Case 2. Coronary Arteries calcified at their commencement. Aortic and Mitral valves calcified. Death *gradual* from Gangrene of Lung.

Case 3. *Coronary Arteries completely plugged by Thrombi. Death* sudden *from Heart-lesion.*

VI. THROMBI OF THE HEART.

Case 1. Thrombus size of a cubic inch in the left ventricle, which is hypertrophied. Death *gradual* from Cerebral Softening.

Case 2. Several Thrombi the size of hickory-nuts in the left ventricle, which is hypertrophied, and the aortic valves thickened and fenestrated. Death *gradual* from Acute Nephritis.

Case 3. A Thrombus the size of a pigeon's egg in the left ventricle. Vegetations on the Mitral valve. Death *gradual* from Cerebral Softening.

Case 4. Large Thrombus in right auricle. Death *gradual* from Invagination of the Ileum.

Case 5. Thrombus of right auricle. Mitral valve calcified. Death *gradual* from Pneumonia.

Case 6. *Large Thrombus of the right ventricle. Death* sudden *from the Heart-lesion.*

DR. LOOMIS resumed:—

From this report it will be seen that valvular disease, cardiac hypertrophy, and dilatation were present in 14 cases. Of this number heart-lesions were the cause of death in 7; death was sudden in 1, and was caused by stenosis of the mitral and tricuspid orifices.

In 15 cases valvular lesions with cardiac hypertrophy were present, in 11 of which the heart-lesions were the cause of death; in 5 of these death was sudden, and the valvular lesions were aortic in one, mitral in another, aortic and mitral in another, mitral and tricuspid in another, and mitral and pulmonic in another.

In 6 cases valvular lesions with cardiac dilatation were present. In 4 of these the heart lesions were the cause of death; 2 died suddenly, in 1 the valvular lesions were mitral stenosis and aortic thickening, in the other the aortic, mitral, and tricuspid valves were all diseased.

In 46 cases valvular lesions were present without cardiac hypertrophy or dilatation. In only 2 of these were heart-lesions the cause of death, in neither of which was death sudden. Lesions of the coronary arteries were present in 3 cases; in 1 death was sudden. Thrombus of the heart was present in 6 cases, death sudden in 1.

From this report it will also be seen that the number of deaths due directly to heart-lesions was 26. In 19 cases death was sudden; number of sudden deaths due to heart-lesions, 10; number of gradual deaths due to heart-lesions, 16; number of deaths not due to heart-lesions, 64. Of the 9 sudden deaths not due to heart-lesion, 4 were from cerebral apoplexy, 4 from uræmic convulsions, and 1 from croupous laryngitis.

The physical evidences of heart disease are mainly abnormal sounds and impulses which may accompany a cardiac pulsation. In other words, cardiac murmurs are all-important in the diagnosis of cardiac affections. Still, any one who carefully studies heart-murmurs soon comes to the conclusion that it is not the loudest or roughest murmur that is most significant or dangerous; the mere fact that a murmur is present in a given case tells very little of its true nature. For some time I have regarded those cardiac murmurs which occur independent of other appreciable cardiac changes as comparatively of slight importance; and I am convinced that valvular lesions developed during the period of the growth of the body are much sooner fatal than those established for the first time at a later period of life.

The records which I have presented give evidence that cardiac murmurs, unless complicated with cardiac hypertrophy or dilatation, rarely necessitate a bad prognosis. Dr. Gairdner states, in his Clinical Medicine, that he has a patient with an extensive mitral regurgitation which has existed for thirty years, and as yet shows no tendency to shorten life.

I have a patient, sixty years of age, with extensive aortic regurgitation, who has been under my observation eight years, during which time he has had three attacks of pneumonia; yet to-day he apparently has as good a tenure of life as at any time since I have known him. There are no appreciable signs of dilatation in his case.

The results of my own clinical and pathological observations lead me to the opinion that so long as cardiac murmurs are not complicated by cardiac hypertrophy and dilatation, with the attending loss of rhythm in the heart's action, our prognosis as regards time is good; but so soon as the signs of considerable dilatation or hypertrophy are present, a great variety of complications are constantly liable to occur, and the heart-disease itself may terminate the life of the individual.

As Dr. Flint has already stated, aortic regurgitation is usually regarded as the most dangerous form of valvular lesion. Of late, however, it has seemed to me that mitral stenosis is equally dangerous. These post-mortem records seem to sustain this opinion. Permit me to name a case in point:—A female, about 30 years of age, a few weeks ago consulted a physician, having walked about one mile and a half to his office. The physician recognized stenosis of the mitral orifice and intense pulmonary congestion. He ordered her to be conveyed to Bellevue Hospital; she, however, walked there, a distance of nearly two miles, and died in about fifteen minutes after reaching the hospital. The only heart-lesion found at the autopsy was mitral

stenosis (one finger could hardly be forced through the mitral orifice) and great dilatation of the left auricle. She evidently died of acute pulmonary congestion and œdema, caused by the cardiac lesion and developed by her long walk.

This variety of valvular lesion, it seems to me, has not received sufficient attention. To Dr. Flint is due the credit of first calling attention to it in this city.

(To be continued.)

Correspondence.

RELAPSING FEVER IN NEW YORK IN 1847–8.

NOTE REGARDING DR DUBOIS'S CASES OF OPHTHALMIA AFTER FEVER.

To the Editor of the Medical Record.

Sir—As an appendix to the lecture on Relapsing Fever, please publish the following note:—My valued friend and medical college classmate, Dr. A. Dubois, is quoted abroad as reporting certain cases of relapsing fever occurring in this country. Dr. Dubois published in the Transactions of the Am. Med. Association, vol. i. p. 373 and onward, the best paper that has yet been written on the treatment of "Ophthalmitis postfebrilis." His paper was founded on twenty-nine cases observed at the New York Eye and Ear Infirmary in 1847–8. During those years typhus was a sweeping epidemic in this city. It was at that time that Dr. Metcalfe, Dr. A. G. Elliot, the late Dr. Gilman, and myself, two and two alternately, for many months, had charge of and visited daily two hundred and fifty patients suffering from that disease. If there had been at that time an epidemic of relapsing fever, it could not have escaped our notice. It was then that we saw well-marked instances of relapse in typhus. So did Dr. Swett at the New York Hospital. As quoted by Dr. Dubois, he says: "In some cases convalescence had advanced regularly for a week, or even two weeks, when all the symptoms of the fever returned, even to the eruption over the body." But this was a disease attended by "an abundant rose-colored rash," which appeared over the whole body. This rash, "so striking and characteristic, appeared abundantly on the trunk, sometimes on the limbs. In some cases livid spots were noticed." The condition of the tongue, brain, and the nervous symptoms did not materially differ from those noticed in the fever of former years [the typhoid affection of Louis is the indigenous fever of New York; typhus has thus far always been imported], except that the prostration was more rapid and marked in many cases. There was diarrhœa without pain or tympanitis frequently; *duration, two to three weeks;* convalescence rapid. These were some of the features of the disease, the relapsing of which Dr. Dubois found to be followed sometimes by ophthalmitis. This is not relapsing fever. There was no constant lesion—no enlargement of the spleen. "Occasionally the glands of Peyer have been affected, and generally they have been noticed as being more distinct than usual, without, however, being properly diseased."

Dr. Dubois quotes from European authors the description of what is now called relapsing fever, and points out the resemblances that he finds between the fever in the New York Hospital and the foreign epidemics, and there stops; he says not a word about *identity*. In truth Dr. Swett's description gives prominence to symptoms which relapsing fever has not; gives a duration to the disease, which, though short for typhus or typhoid, is much too long for relapsing fever; and then he makes no allusion to the characteristic repeated crisis, and none to muscular pains. The fever described by Dr. Swett came from the same sources as that which filled Bellevue, was the same epidemic, and, as I can testify from personal examination in repeated visits, was substantially the same disease. I therefore had never thought of that paper as announcing the existence of relapsing fever in this country. But, on reviewing now the eight cases published as illustrations of his subject, I find there are four that could hardly have been anything else than relapsing fever. Of two it is stated that they had just arrived in the country, and of the other two no record is made relating to this point. Of the other four, three had no relapse; and of one the only statement is, "had fever in July, which was followed by relapse;" so that the character of the fourth cannot now be determined with certainty.

But here a point should be raised. In his second case the man "was ill between five and six weeks without any remission." He had come from the country and took the prevailing fever, typhus. Again, his fifth case, she "had fever in Aug.; she did not fully recover her health till the latter part of October;" relapse is not mentioned. Here then are two cases of typhus fever followed by "Ophthalmitis postfebrilis." The third may have been of the same character, or it may have been relapsing fever without the relapse. This is the record: "Wm. Brady, aged 17, admitted March 31st, 1848, had fever on his voyage from Liverpool, in Dec. last; ill ten days; no relapse." In children typhus often runs its course in nine or ten days, and occasionally in persons at 17. Then, on the other hand, we have seen that the first stage of relapsing fever may last ten days, and we have learned that the relapse is not absolutely constant. Still the fact remains that, so far as we can learn from the specimen-cases, Dr. Dubois had at least two instances in eight of his twenty-nine ophthalmias in which the inflammation followed typhus fever. *Ophthalmitis postfebrilis can occur, then, after typhus, as well as after relapsing fever.* In 1847 and 1848, the years in which Dr. Dubois recorded his cases, the deaths in New York from fever, almost wholly typhus, though reported to the Registrar under various names, exceeded 1,800 and 1,200 respectively. Those 3,000 deaths represent about 18,000 cases and indicate about 15,000 recoveries. It is easy, therefore, to understand how this unusual prevalence of typhus may have produced an unusual number of cases of ophthalmitis postfebrilis.

But, after all, as I have said, it is pretty clear that Dr. Dubois did see ophthalmia that followed relapsing fever in 1847–8, in at least four cases, the fever occurring either at Quarantine or in the city. But this was not the fever Dr. Swett describes, nor the fever we treated at Bellevue, nor that generally prevalent in the city. It may, therefore, be said that relapsing fever was not, then, epidemic, and there is no evidence that it has ever been epidemic in this country till the present time.

But I will transcribe the report of these four cases so far as relates to the ante-ophthalmic fever:

"*Mary Gall*, aged 13 years, landed at Quarantine on the 1st of June, 1847. Many of her fellow passengers were sick with fever on the voyage. About the middle of June she was taken ill of the same disease; was confined to her bed for twelve days; relapsed after two days. Second attack continued for ten days."

"*Stephen Stanley*, aged 26, was ill of fever at the Quarantine in November, 1847; confined to his bed for ten days; after a convalescence of four days had a relapse; in five weeks from the first attack was perfectly well."

"*Margaret Orpen*, aged 25, taken with fever on the 25th of December; was confined to her bed for a fort-

night; in three days had a relapse, was ill for three days."

"*James Wilson*, aged 35, was taken ill with fever Jan. 14, 1848; convalescent in one week; four days after had a relapse."

In one of Dr. Dubois' cases a *second relapse* was reported.

In these cases the first fever was of short duration, and in two of them relapse occurred on the *fourteenth* day. In the others the relapse was on or near the seventeenth and eleventh days respectively. These were cases of relapsing fever.

The fact that, so far as noticed in this country, this disease has spread only through infection, and the observation of Dr. Harris, that the period of incubation may be fifteen days, associated with the statement of Mary Gall above quoted, render it highly probable that relapsing fever was brought to this city by emigrants on the first of June, 1847.

Again, in November of the same year, it appeared in a person just arrived from Europe. It is to be assumed that his was not the only case in, or from, the ship in which he arrived. It is probable, then, that the disease was twice imported in 1847, and perhaps a third time in December. The extent to which it prevailed, whether it appeared in any except persons newly arrived, we have, probably, lost the means of ascertaining, unless Dr. Dubois' notes can give us further information. Regarding Margaret Orpen and James Wilson, if they were not emigrants, their cases would show some spread of the disease in the city.

A. CLARK.

CORRECTIONS.—The statements made in the last four paragraphs in the second part of my lecture, published March 15, including a tabular exhibition of the symptoms in 103 cases, dated February 15, were sent to the printer as a *post-scriptum* note. They appear as a part of a lecture delivered February 7. The Dr. Moon of those paragaphs is really Dr. Moore.

A. C.

Medical Items and News.

THE BELLEVUE HOSPITAL MEDICAL COLLEGE held its Eighth Annual Commencement at the Academy of Music, February 26th, when degrees were conferred upon 140 students. The address to the graduates was delivered by Rev. Dr. E. H. Chapin, and the Valedictory by Dr. Samuel M. Tucker. Music by Theodore Thomas. The O. A. E. Society of this college celebrated its sixth anniversary three days previous. The President of the society, Dr. Edw. C. Harwood, delivered an address; Prof. Geo. T. Elliot gave a discourse upon *Medical Science at the Present Time*. Regular toasts were responded to by Professors James R. Wood, Henry D. Noyes, and Lewis A. Sayre, and by Drs. Thos. J. Earle and J. W. McWhinnie, of the graduating class. Music by Grafulla's band, and the O. A. E. Glee Club.

COLLEGE OF PHYSICIANS AND SURGEONS.—The Sixty-third commencement of this college was held at Steinway Hall, March 2d. Seventy-four graduates received diplomas at the hands of the venerable President, Dr. Delafield. The two Faculty Prizes were awarded to Dr. Allan McLane Hamilton, for a thesis upon "Galvano-Puncture Applied to the Cure of Aneurisms," and Dr. J. Freeman Atwood for a thesis upon "Bromide of Potassium." Dr. Hamilton also obtained the Harsen Prize for the best Clinical Report of the New York Hospital instructions. The Stevens' Triennial Prize was given to Dr. L. D. Bulkley, for a thesis upon "Thermometry in Disease." The Alumni Prizes were received by Drs. Andrew H. Smith and Albert H. Buck, both of this city, for their respective theses on "Oxygen as a Remedy in Disease," and on "The Mechanism of the Ossicles of the Ear." Honorable mention was made of the thesis of Dr. J. D. Featherstonehaugh, on "Mechanics of the Spinal Cord," of Dr. S. B. St. John, on "The Crystalline Lens," of Dr. John V. Morgan, on "Chemical Diagnosis," of Dr. Willard Parker, Jr., on "The Great Sympathetic Nerve," and of Dr. John Green Curtis, on "A Point in the Mechanics of the Foot." The address was given by Rev. Francis Vinton, D.D., and the Valedictory by Dr. D. Brainerd Hunt. The meeting of the Alumni Association took place March 1st, when Dr. W. C. Roberts delivered the address, and the prize committee made its report as above.

WESTERN DISPENSARY FOR WOMEN AND CHILDREN.—This young dispensary, located at 242 Ninth Avenue, sends us its first annual report. Opened in March of last year, in a district sadly deficient in dispensary accommodation, it had, up to the 31st of December, given medical aid to 1279 patients, of whom 692 were adults, and 587 children. To 40 of these patients 217 visits were made at their homes. The Attending Physician is Dr. Mary E. Greene, whose energy did much towards securing the establishment of this charity. The Consulting Board consists of Drs. Jacobi, Reynolds, Leaming, F. Swift, C. C. Terry, B. Howard, S. B. Ward, and Piffard.

THE NEW YORK ORTHOPÆDIC DISPENSARY, 1299 Broadway, incorporated May 1, 1868, presents its second annual report. Its Surgical Board is thus organized: *Surgeons*, Drs. C. F. Taylor and W. E. Vermilye; *Assistant Surgeons*, Drs. Thos. M. L. Chrystie and David C. Carr; *Consulting Surgeons*, Drs. Willard Parker, W. H. Van Buren, C. R. Agnew, J. T. Metcalfe, and E. Krackowizer. Of 189 new applicants at the Dispensary for the past year, 97 were received. The whole number of cases remaining under treatment Jan. 1st was 213. During the year 175 visits were made at patients' residences. The results of treatment are illustrated in the report by accounts of a number of interesting cases.

THE BUFFALO MEDICAL COLLEGE.—The Commencement exercises of the Buffalo Medical College were held February 22d, and the Council conferred the *Degree of Doctor in Medicine* upon 41 graduates.

ALBANY MEDICAL COLLEGE.—Twenty-eight students received the degree of Doctor in Medicine from Albany Medical College, on the 23d of December last.

THREE CASES OF BRONCHOCELE.—Prof. W. Warren Greene (*Boston Med. & Surg. Journal*) has had three successful cases of removal of bronchocele. In the last case the bronchocele was double and of immense size.

THE COMMENCEMENT OF THE JEFFERSON MED. COLLEGE, PHILA.—One hundred and sixty-two graduates received their diplomas at the Jefferson Medical College on Saturday, March 12th.

NATIONAL CONVENTION FOR REVISING PHARMACOPŒIA.—In compliance with a resolution of the National Convention for revising the Pharmacopœia, directing that the names of the delegates announced to the President of the Convention as having been appointed to attend the Convention to meet on the first Wednesday of May next, at Washington, be made public in the newspapers and medical journals in March, the following names of delegates are now published, with

the date at which their appointment was made known to the President in the order of their announcement:

May 27, 1869, *St. Louis Medical College*, A. Litton, M.D.; J. S. B. Alleyne, M.D.

June 6, 1869, *Maryland College of Pharmacy*, Wm. G. Thompson, I. Faris Moore, Louis Dohme.

June 6, 1869, *Missouri Medical College*, Chas. O. Curtman, M.D.

June 25, 1869, *St. Louis College of Pharmacy*, O. F. Potter, M.D.; Hubert Primm, M.D.; Eugene L. Masott.

June 25, 1869, *Chicago College of Pharmacy*, Albert E. Ebert, Henry Biroth, C. Lewis Diehle.

Alternates, Jas. W. Mill; F. Mahle, M.D.; Louis Strihl.

August 9, 1869, *Jefferson Medical College*, John B. Biddle, M.D.; B. Howard Rand, M.D.

December 9, 1869, *Medical Society of District of Columbia*, Thos. Antisell, M.D.; C. H. Liebermann, M.D.; B. F. Craig, M.D.

January 11, 1870, *Medical College of Virginia*, J. S. Willford, M. D.; R. S. J. Peebles, M.D.

January 20, *Massachusetts College of Pharmacy*, Geo. F. H. Markoe, Thos. Dolliber.

February 1, 1870, *Medical Society of the State of New York*, Caleb Green, M.D.; Wm. Manlius Smith, M. D., Ewd. R. Squibb, M.D.

Feb. 3, 1870, *College of Physicians of Philadelphia*, George B. Wood, M.D.; Robert Bridges, M.D.; H. C. Wood, M.D.

Feb. 15, 1870, *College of Pharmacy of New York*, Wm. Hegeman, Wm. Neirgard, P. W. Bedford.

Alternates, Theobald Frohwein, Augustus H. Weismann, Geo. C. Close.

Feb. 16, 1870, *National Medical College (Medical Department of Columbia College, Washington)*, Geo. W. Dore. M.D.; Jno. C. Riley, M.D.

March 10, 1870, *Medical Department of the University of Pennsylvania*, Jos. E. Carson, M. D.; Robert E. Rogers, M.D.

March 17, *Philadelphia College of Pharmacy*, Wm. Procter, Jr., Jno. M. Maisch, Alfred B. Taylor.

The following letter has been received by the President offering the use of the halls for the meeting and subsequent sittings of the Convention.

1407 New York Avenue,
Washington, D.C., Feb. 16, 1870.

Prof. Geo. B. Wood, M.D.

My Dear Doctor—It affords me pleasure to inform you that at a recent meeting of the Faculty of the National Medical College (Med. Dept. of Columbia College) the following resolution was unanimously adopted.

Resolved, That the Dean be instructed to tender to Prof. Geo. B. Wood, the President of the Convention to revise the Pharmacopœia held in 1860, the College buildings for the meeting to be held in May, 1870, and to make the necessary arrangements therefor.

The building is centrally located, in the vicinity of the principal hotels, and is well suited for the purpose.

Respectfully your obedient servant,

Jno. C. Riley,
Dean of Faculty of Columbia College.

Cases of Relapsing Fever at Bellevue Hospital.—Thomas J. Moore, M.D., House Physician to Bellevue Hospital (*N. Y. Med. Journal*), records 103 cases of relapsing fever occurring at this hospital and in the Fever Pavilion from Nov. 14, 1869 to Feb. 16, 1870. Two cases were fatal—one from suppression of urine, the other from the fever.

Dr. H. L. Hodge, Jr., has been appointed Demonstrator of Anatomy in the University of Pennsylvania, vice Dr. D. H. Agnew, resigned.

A new full chair has been created in the Med. Dept. of the University of Pennsylvania, to be entitled Professorship of Clinical and Operative Surgery, and Dr. D. Hayes Agnew, late Demonstrator of Anatomy, will be invited to fill it.

Empyema Treated by Drainage Tubes.—Dr. Paley, of Peterborough, has treated two children, both of the age of ten, for empyema, by first making an opening into the chest by means of a trocar evacuating the pus, and then inserting an india-rubber tube, such as is used in feeding bottles, about two feet and a half long, and with a few openings cut into it with a pair of scissors at the end to be left in the chest, for about six inches into the chest through the canula. The tube was secured to two pieces of plaster above and below the opening by means of silk threads, and was kept in six days. The children both made good recoveries.

Chorea by Ether Spray.—M. Perroud, Physician of the Hôtel Dieu of Lyons, has just applied, with much success, the ether spray to the spine of a girl of fifteen, suffering from chorea. Eleven sittings, at each of which between two and three ounces were used with Richardson's apparatus, were followed by complete cure. A second just as successful case occurred under the care of Dr. Meynet, also at Lyons, the patient being a lad of eighteen.

An Attack of Catalepsy of Fifty-four Days.—The *Allg. Med. Zeit.* of Berlin (No. 101, 1869) quotes from the *Presse Méd. Belge* the case of a girl aged twenty, who had suffered in various ways at the catamenial periods. In December, 1868, she threw herself into a river on being taken into custody for some crime. Upon this she was seized with convulsions, and could neither speak nor swallow; a cataleptic state soon followed, and lasted eight weeks. The eyes remained sometimes opened for two or three hours without the lids once moving, and the temperature sank so low that at one time she was thought to be dead. She was eventually roused and did well. The urine flowed involuntarily; but we are not told anything about other evacuations, or about food or sleep. These cases are always unsatisfactory, as (especially in this case) doubts may be entertained respecting the genuineness of the affection.

Movable Kidneys.—Dr. William Roberts, of Manchester, has brought before the Manchester Medical Society five cases of movable kidneys. In four of them the right alone was affected. All were women who had children. One was verified by *post-mortem*. Of 57 cases collected by Dr. R. 52 were in women, and the right kidney is far more frequently affected than the left. Child-bearing and tight-lacing were frequent causes of this affection. The valuable signs are the hard, smooth, sloping, rounded character of the swellings, and their mobility.

Removal of Lower End of the Rectum.—Prof. Nussbaum's (of Munich) case of removal of a portion of the rectum and prostate affected with epithelioma has made a great noise in surgical circles. It appears that, when cancer of the rectum removed by operation recurs, it does so after longer intervals than any other species of cancer. Dr. Nussbaum began the operation by making two semicircular incisions round the anus, and, carrying the finger upwards, he separated the healthy from the unhealthy tissues to the depth of

four inches. After four arteries had been tied, the bleeding ceased, and the bowel was then drawn down and secured to the skin. The man lived, it seems, three years after this operation, but succumbed to the same affection at last.—*Med. Press and Circular.*

CANNIBALISM IN NEW ZEALAND.—It was affirmed that the natives of New Zealand had abandoned their habit of cannibalism; but we hear that as late as June, 1868, some of the chiefs had eaten some soldiers killed by their followers.

CURE OF PHIMOSIS BY DILATATION.—Dr. Cruise, in the *Dublin Quarterly*, advocates this plan of treatment, which he regards as efficient, safe, and ready. He attributes the success of this method to the circumstance that the contraction is usually situated in the mucous membrane of the prepuce, just at its junction with the skin; consequently, when this contracted point is forcibly opened, the mucous membrane tears up, while the skin expands with the utmost facility. The operation may be performed with a pair of common dressing forceps, and Dr. Cruise gives a drawing of a three-bladed dilator he purchased in Paris; but he prefers an instrument he has himself constructed, in which the handles resemble those of a pair of scissors, whilst the blades are bent at right angles, and terminate in rounded points. These separate as the handles are approximated, the degree of separation being regulated by an arc and screw-nut between the handles. The degree of separation required may be estimated by casting a loop of thread round the glans penis, and so graduating the nut on the arc that on compression of the handles the blades separate sufficiently to tighten it. The preputial orifice is now sought out exactly where the skin and mucous membrane unite. The closed blades are introduced, care being taken to avoid the urethra, and the handles firmly and suddenly closed. The mucous membrane tears up in the line of the axis of the penis. The pain is said to be sharp, but transient; but no bleeding or other trouble follows. The foreskin should be at once retracted over the glans penis, and kept there for from twenty-four to forty-eight hours, the only dressing required being a piece of lint dipped in cold water.

CÆSAREAN OPERATION AFTER THE DEATH OF THE MOTHER.—Dr. Beckmann, of Berlin, has published the case of a woman, aged twenty-five, who, being in the eighth month of pregnancy, was seized with apoplectic symptoms, and died comatose. Conscious that there was no chance of saving the child unless it was extracted within five minutes after the mother's death, Dr. Beckmann, having obtained leave from the husband, performed the Cæsarean section with an abscess lancet, the only instrument he had with him. The child weighed hardly four pounds, and by persevering efforts at resuscitation, which were carried on for full two hours and a half, the child breathed freely, and is now a strong boy, nearly three years of age.

FUNCTION OF THE PONS VAROLII.—H. Nothnagel (*Virchow's Archives*) arrives at the following conclusions in regard to the *nervous centre of general convulsions*, which are derived from actual experiments. The centre of general convulsions is situated in the substance of the pons. Its lower boundary is corresponding to a section at the height of the inferior border of the pons. The faculty to perform the function of a centre of spasms is to be denied to the substance of the medulla oblongata.

Finally, he endeavors to prove that the spasms are produced by way of reflex. In some instances the section of the medulla oblongata had been made below the pons, the anima's remaining absolutely quiet. Again: the convulsions occurred if the section had left a portion of the pons connected with the medulla oblongata, showing the centre of action to be situated outside of the medulla.

At last the anatomical condition of the region of spasms is confirmatory of the view of reflex action. The region nearly corresponds to the situation of the gray nuclei and root-fibres of the sensitive cranial nerves. While the nuclei and root of the motor cranial nerves are near the raphe, those of the sensitive nerves are more lateral. The root-fibres of the portio major trigemini, in particular, descend, according to Schroeder von der Kolk, through the whole length of the medulla. This anatomical condition, it must be conceded, is no direct proof of a reflex action, but it renders it admissible and plausible.

From all this it seems that the convulsions following the injury of a defined region on the floor of the fourth ventricle are to be explained as spasms induced by reflex action.

AMOUNT OF FOOD CONDEMNED IN LONDON.—In the three markets in the city of London — Newgate, Aldgate, and Leadenhall—as much as 400 tons of meat are sold daily. About two tons of diseased meat are seized and condemned every week, and this is in the proportion of one part to 750. Last year the amount of meat condemned as unfit for food was nearly 129 tons, and in the preceding year it was more than 152 tons. It consisted of 6,440 sheep and lambs, 1,025 calves, 2,896 pigs, 9,104 quarters of beef, and 21,976 joints of meat; besides which there were also seized and condemned, on account of putridity, 19,040 head of game and poultry, 207 quarters of venison, and above 7,000,000 of fish, together with thousands of whelks, shrimps, periwinkles, &c.—*The Drug. Circ. and Chem. Gazette.*

THE "ANATOMY ACT" IN GREAT BRITAIN.—Not half enough subjects for dissection can be obtained in Great Britain on account of the stringency of the "Anatomy Act." Many of the London students go to France to dissect.

THE DOSE OF ARSENIC IN ECZEMA.—The formula given on page 34 of the last RECORD, in the article on the "Treatment of Eczema," by Dr. Erasmus Wilson, is a misprint. The quantity of "liquor arsenicalis" mentioned in the prescription should be a drachm instead of an ounce. We are particular in calling attention to the fact, in the fear that some one might prescribe the remedy as printed, without stopping to calculate the dose.

New Publications.

BOOKS RECEIVED.

A PRACTICAL TREATISE ON THE DISEASES OF CHILDREN. By J. FORSYTH MEIGS, M.D., and WILLIAM PEPPER, M.D. Fourth edition, revised and enlarged. Philadelphia: Lindsay & Blakiston. 1870.

A HANDBOOK OF OPERATIVE SURGERY. By JOHN H. PACKARD, M.D., one of the Surgeons of the Episcopal Hospital. Philadelphia: J. B. Lippincott & Co. 1870.

A PRACTICAL TREATISE ON THE DIAGNOSIS, PATHOLOGY, AND TREATMENT OF DISEASES OF THE HEART. By AUSTIN FLINT, M.D., Prof. Principles and Prac. of Med., Bellevue Hospital Medical College. 2d Edition. Philadelphia: H. C. Lea. 1870.

A PRACTICAL GUIDE TO THE STUDY OF THE DISEASES OF THE EYE. By HENRY W. WILLIAMS, A.M., M.D. 3d Edition. Boston: Fields, Osgood & Co. 1869.

Original Lectures.

CLINICAL LECTURES ON THE DIAGNOSIS AND TREATMENT OF STRICTURE OF THE URETHRA.

By J. W. S. GOULEY, M.D.,

PROFESSOR OF CLINICAL SURGERY AND OF GENITO-URINARY DISEASES IN THE UNIVERSITY OF NEW YORK, SURGEON TO BELLEVUE HOSPITAL, ETC.

LECTURE III.

INTERNAL URETHROTOMY.

GENTLEMEN:—The topic of to-day's lesson will be the treatment of stricture by incision.

When dilatation or divulsion is impracticable, the surgeon is obliged to recur to the knife, that the normal calibre of the urethra may at once be restored, and that the way may be prepared for the passage of full-sized sounds, which, as you know, is the most certain mode of maintaining the *calibration* of the canal. The operative procedures usually employed consist of dividing the stricture from within or from without. The one is known as *internal*, the other as *external urethrotomy*.

It is with the first that we shall now deal. It is done by introducing into the urethra a knife (*urethrotome*) with which the strictured part is incised, together with a little uncontracted tissue in front and behind. The design is to obtain union by granulation, and with the aid of dilating instruments to ensure the formation of a wide *cicatricial splice*.

The ancients, imagining that impediment to the flow of urine was generally due to what they called "carnosities," "excrescences," resorted to "escharotics," to sounds with "asperities" near their extremities, and sometimes to catheters with sharp eyes, or other cutting appliances at their points (Ambroise Paré).

In the latter end of the past century, Dr. Physic, of Philadelphia, employed the "lancetted stilette," and similar instruments were afterwards used by McGhie (1823) and by Stafford (1827). By means of the "lancetted stilette" the stricture was supposed to be punctured, but there was no certainty in that regard, as the point of the instrument was apt to deviate from the proper route, and make a false passage. This hazardous method prevailed for some time, but finally had to be abandoned.

In 1823 Mr. Civiale employed the "urethrotome," or "bistouri caché," to divide strictures in the fossa navicularis, and also to enlarge the meatus urinarius when too narrow to admit his lithotrite. Ashmead, and also Horner, had performed urethrotomy in the fossa navicularis as early, if not earlier, than Civiale.

In 1825 Amussat devised a urethrotome for the division of strictures in the deeper part of the urethral canal. His incisions amounted to little more than scarifications. He subsequently introduced two other instruments, the value of which was questionable, and they were never brought into general use.

In 1827 Dr. Jameson, of Baltimore, published in the *American Medical Recorder*, vol. xii., page 329, some "practical observations on stricture of the urethra," with a case treated by internal incision, and described a urethrotome of his own, with a plate of the instrument, a sketch of which I now show you* (Fig. 7). The following is substantially the description given by Dr. Jameson:—

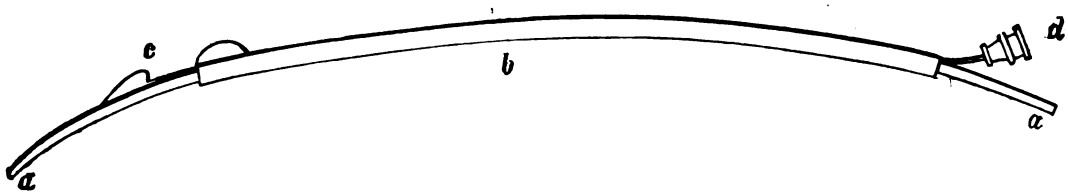

FIG. 7.

a. A small steel sound deeply grooved on its convex surface, about one-third longer than a common sound, to admit of the necessary movement of the sliding knife.

b. A silver tube of the same curve as the sound, about eight inches in length, having a guard at its vesical end to cover the knife.

c. The blade protruded.

d. Knob near the end of the staff, to protrude the blade.

This urethrotome, designed for cutting from before backward, does not differ very materially from some of the modern instruments. The small conducting steel sound was first passed through the stricture, and then the guarded blade introduced down to the obstruction, and the knife pushed onward.

In 1833 M. Reybard published, at Lyons, an essay on a "new procedure of curing strictures by incision" with an instrument having a short conducting gum bougie at its end, for cutting from before backward. This instrument was no great improvement over the lancetted stilette.

Maisonneuve's urethrotome, similar in its construction to that of Dr. Jameson, is the one now mostly in vogue (Fig. 8). It consists of a No. 1 deeply grooved curved sound (*B*), about twelve inches in length, with a small ring near its distal extremity as handle,—to its vesical end is screwed a fine gum conducting bougie of ordinary length (*C*),—and of a triangular blade (*A*), attached to a stem somewhat longer than the sound. From the base of the blade, near its point, project two lateral wings, which serve to retain it in the groove of the sound. The summit of the cutting edge is blunted so as to prevent injury to the normal mucous membrane. After many experiments with this instrument, upon the cadaver and on the living, it was found that the healthy urethral mucous membrane did not usually escape injury. On this account Voillemier made a modification of it, which he presented to the "Société de Chirurgie" of Paris in 1862. In the modified instrument, the blade is guarded by a plate of the same size and shape, and the summit is sharp, and not blunted as in the original.

I shall now give you the steps of the operation according to Maisonneuve:—

First, The conducting bougie is introduced past the stricture; this is no easy matter, for it is made of very soft material, that it may coil up in the bladder.

Secondly, The vesical end of the sound is screwed to

* I am indebted to my friend Dr. John G. Curtis, House Surgeon at Bellevue Hospital, for a number of the drawings which accompany these lectures.

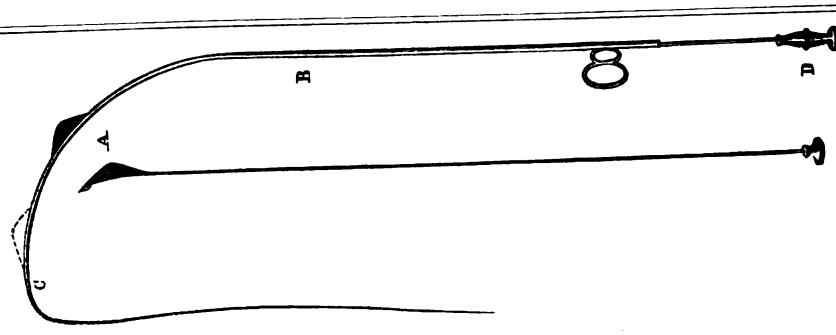

FIG. 8.

it, and the instrument is slowly and gently pushed onward, until it has gone beyond the obstruction, and can be moved back and forth without impediment.

Thirdly, The blade is made to glide into the groove of the sound until it has reached the part to be divided; the penis is then drawn forward, the sound steadied, and the cutting blade carried beyond.

Fourthly, The instrument is slowly and cautiously withdrawn, and the operation is thus terminated.

The operative procedure with Voillemier's instrument differs but slightly from the foregoing.

In 1849 * Civiale published an account of his instrument for retrograde urethrotomy (Fig. 9). The size of the flattened olivary extremity is such that considerable

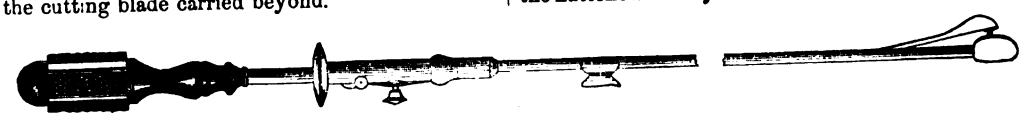

FIG. 9.

preliminary dilatation is necessary before it can be carried beyond the constriction. Sometimes, however, he used another instrument for scarifying from before backward to prepare the way for the retrograde urethrotome. The terminal olivary expansion is used as an explorer and serves also to guard the blade, which can be opened to the degree required. He does not claim any originality for these instruments, but thinks he has been happy in the combination of the elements of those which had before been in use, with the result of obtaining great precision in their action.

The "urethrotome à bascule" or "bistouri caché," made longer, and with a short cutting edge, I think answers a better purpose than the long instrument, for strictures of the pendulous portion. (Fig. 10, natural size, is copied from a drawing in his "Traité des maladies des organes genito-urinaires," 1858.)

Le Roy d'Etiolles' urethrotome for cutting from behind forward is little more than a scarificator.

Reybard, in his treatise on stricture, 1853, represents engravings of two urethrotomes for the retrograde operation,—one designed to dilate, and at the same time to make very deep and long incisions. He contended that the incisions, to prove serviceable, should

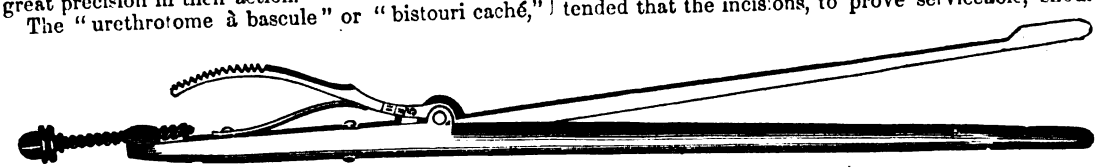

FIG. 10.

extend through the entire thickness of the spongy substance, and even into the subcutaneous connective tissue. An eye-witness to one of M. Reybard's deep internal incisions informed me that he had seen the blade protrude through the skin. Besides occasional excessive hemorrhage, abscess, and also infiltration of urine, have been known to follow this mode of operation.

I do not think that I shall have done my duty to you until I have entered my protest against the deep incisions of M. Reybard. His predecessors were at one extreme with their scarifications, and he has gone to the other with his long and very deep incisions. Scarifications are of no use; deep incisions are dangerous. Let us take the middle course, and make incisions free enough to reach the trouble. When the disease invades the whole thickness of the spongy tissue, with much induration, the internal division, immediately followed by free *divulsion*, is certainly preferable to these very deep incisions.

I have described to you urethrotomes for cutting from before backward, and from behind forward: both have been objected to, but a compromise has been effected by a combination of their essential elements in one instrument, that the two procedures may be practised at the same sitting. Ricord, Trélat, and others have introduced such devices, but perhaps the best is Charrière's (Fig. 11), which is a modification

* De l'urétrotomie ou de quelques procédés peu usités de traiter les rétrécissements de l'urètre.

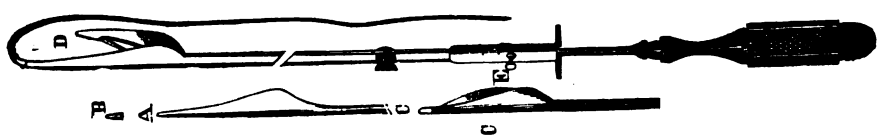

FIG. 11.

of Civiale's urethrotome. It is now used with Maisonneuve's gum conductor. The instrument is carried down to the stricture, the concealed blade is pushed forward so as to incise the constriction, and then, by a mechanism similar to Civiale's, it is tilted up and the stricture is divided in withdrawing the instrument a little. I would suggest the tunnelling of the point of this instrument, and that the whalebone guide be substituted for Maisonneuve's gum conductor.

Internal urethrotomy is done in the fixed or pubic curve as well as in the pendulous portion of the urethra. In France and in our country many prefer it to the other methods (in the pubic curve), while in Great Britain divulsion is almost exclusively used. My own preference is now for divulsion, and I only resort to internal urethrotomy in intractable strictures of the ante-scrotal portion of the canal.

I cannot do better than to give you some examples of urethrotomy in the sub-pubic curve, and in the pendulous urethra, from before backward and from behind forward, with different instruments. Please to bear in mind that success in this operation depends more upon the skill of the surgeon than upon the instrument he uses. A clean longitudinal incision should be made in the middle line of the urethral floor; sometimes a second one is done into the upper wall. Maisonneuve occasionally practises two lateral incisions.

TWO CASES IN WHICH URETHROTOMY WAS DONE WITH MAISONNEUVE'S INSTRUMENT.

Case I.—(*November*, 1865.) James O'D., aged 41. Seven or eight gonorrhœas; first attack in 1846, last in 1861. Retention of urine four times in the last three years. First symptoms of stricture eleven years ago. Had never been treated until he came to me, when it was impossible to pass even No. 1 through an obstruction three inches from the external orifice. At that time micturition was exceedingly painful, and the urine flowed guttatim. For two weeks repeated attempts at dilatation failed, and retention of urine was feared. Desosmeaux's endoscope revealed a glistening, nacreous-looking surface at the seat of stricture, through which a probe only could be passed. I then concluded to perform internal urethrotomy as soon as I could pass a conductor, and asked him to return in two or three days, but when he called he was suffering from retention of urine of twelve hours' duration. I endeavored to introduce Maisonneuve's conducting bougie, but failed. The urgency of the case was such that I could not postpone the operation to procure other instruments, so I coated with wax the milled end of Maisonneuve's steel director, and succeeded in getting it through the obstruction, then introduced the blade and made a free incision of the stricture, but no urine flowed. Another tight constriction six inches from the meatus was encountered and dealt with as was the first, but with much more difficulty. A full stream of urine gushed out, before I had time to pass a catheter, till one and a half pints had escaped. Hemorrhage moderate. Conical steel sounds Nos. 11, 12, 13, and 14 introduced successively. No anæsthetic. No catheter retained. In two days he called at my house, and I passed Nos. 15 and 16. No. 17 every second day for a month, then twice a week. No rigors. Not an untoward symptom. Catheterism subsequently carried to No. 18. August 23d, 1866, he called to introduce before me No. 17 conical steel sound, which he had used regularly every Saturday night since his dismissal. July 31st, 1868, the patient came to say that, having neglected to use his instrument for three months, and finding some impediment to its introduction three days before, he had used force, which was followed by considerable hemorrhage and frequent micturition (every half hour). He passed before me two ounces of bloody urine, with some straining and pain, but in a pretty full stream. No. 8 bulbous bougie entered a false passage in the sinus of the bulb, and when withdrawn half an ounce of blood flowed. Rest for two days, a diluent drink, and warm hip-bath, had the desired effect. On August 3d he was much better, no chill or fever. Sounds to No. 17 without impediment. He confessed that he had attempted catheterism while under the influence of strong drink. Has remained well ever since. Catheterism once a month. He returned in January, 1870; no difficulty was experienced in passing No. 17.

Case II.—Richard O., aged 42, of intemperate habits. This man was treated by me for urethritis in 1853. He has had in all seven gonorrhœas, the first in 1848, the last in 1861. In 1859 he was under my care for a tight stricture, which was dilated to No. 10; then I lost sight of him until March, 1866, when he came to say that he had neglected the use of instruments, and that he was suffering from dysuria. Urine was constantly dribbling from him, and complete retention was impending. No. 1 gum bougie gave him relief, and he was kept in bed for a few days to be prepared for urethrotomy. Incidentally I ascertained that, six years before, while climbing up a ladder, he had fallen astride one of the rounds, and that he had bled freely from the urethra for twenty-four hours, but had had no retention of urine. On the 10th of March, 1866, I explored his urethra and found a linear contraction half an inch from the external orifice, and another very narrow three inches back. The first was freely incised, and also the second, with Maisonneuve's urethrotome, cutting along the upper wall. I had found it impracticable to use the gum conductor, and after some delay and trouble inserted the grooved sound. A No. 12 conical steel sound was passed, and encountered another obstruction at the bulbo-membranous junction. The director (No. 1) was introduced as before, with difficulty, and without the gum conductor; then the blade was slid into the groove and passed down the urethra to divide the stricture,—this time along the floor of the urethra. Hemorrhage trifling. Sounds to No. 16. No catheter retained. He was sent to bed and catheterism ordered at intervals of a few hours for the first day, but he made water before this could be done. No chill or other unfavorable symptom. Once a day No. 16 was passed, and he was dismissed within two weeks. He afterwards returned twice a week, until early in May, to have the instrument introduced. June 1st, 1866, he was doing well and passing a good stream. Nos. 15 and 16. July 24th, 1866. Had been absent six weeks, and no instrument had since been used. No. 15 passed without impediment. The patient was last seen a year after the operation, and catheterism with No. 15 was done without trouble.

The difficulties which I had experienced in the two cases just related, suggested to me a device by which they might in future be obviated. The first and really difficult step of Maisonneuve's operation is to pass the gum conductor. I have seen the attempt made by clever surgeons, without success; and have often witnessed bending of the bougie in front of the obstruction, so that its point would appear at the external orifice. My success with capillary whalebone bougies induced me to employ them as conductors in urethrotomy, and I had but to adapt Maisonneuve's blade to the vesical end of my smallest-tunnelled sound, and I had a urethrotome of the simplest construction for cutting from before backward. The blade being sharp, both in front and behind the blunted summit, it could

also be used to cut from behind forward. It was not deemed necessary to give it as much curve as that of the tunnelled sound. The one I now show you (Fig. 12), is nearly straight, and I have experienced no trouble in using it, either in the sub-pubic curve, or in the pendulous portion of the urethra.

Fig. 12.

The operative procedure is as follows: First, the capillary whalebone conductor is passed into the bladder.—Secondly, its distal end is slipped through the smallest tunnelled sound, and way is made for the point of the urethrotome, and the sound is withdrawn.—Thirdly. The tunnelled urethrotome is introduced in a similar manner as is the tunnelled sound. The penis is steadied with the left forefinger and thumb, and the stricture divided by sliding the instrument gently upon the conductor until all resistance to its passage ceases.—Fourthly. The instrument is withdrawn, but the conductor left in position, that a large tunnelled catheter may be introduced, in order to ascertain if the incision has been sufficiently free, and at the same time to draw off the urine. Its practical application can be better illustrated by the citation of cases, which will also teach other points of importance.

Case III.—John G., aged 53, entered Bellevue Hospital, March 7, 1866. Gonorrhœa ten years previously. Narrow stricture in the region of the bulb. Dysuria. Frequent micturition. Retention relieved spontaneously. Dilatation persistently tried without success. On May 5th, 1866, after exploration, I injected half an ounce of oil into the urethra, passed a capillary whalebone bougie, introduced the tunnelled urethrotome (Fig. 12), and divided the stricture freely. No anæsthetic. No catheter retained. Sound No. 18. Hemorrhage very moderate. Hip-bath, rest, diluents, quinine, and iron. Slight febrile reaction on the following day, none afterwards. Catheterism every second day. Patient discharged on the 20th of May, and advised to continue the use of his sound. Has not since been seen.

Case IV.—Owen W., aged 33, admitted into Bellevue Hospital, February 19th, 1866. Gonorrhœa six years previously. Three retentions of urine. The first, one and a half years after the urethritis. Great suffering from dysuria, stream extremely small and twisted. Catheterism with small gum and other bougies had failed after numerous attempts. I first saw the man on May 12th, 1866, and, after a great deal of difficulty, succeeded in passing a capillary bougie through the stricture, which was situated in the subpubic curve. On the 14th I incised it freely with my urethrotome (Fig. 12), and passed No. 18 conical sound. No anæsthetic. Hemorrhage half an ounce. No catheter retained. Urine drawn off, for the first forty-eight hours. Hip-bath, diluent, quinine, etc. No chill or fever. Made a full stream of urine at normal intervals. Sound every second day. In a week the patient left the hospital, and has not since been heard from.

Case V. (Seamen's Retreat, June 10th, 1866.)—Louis G. G., aged 47. Urethritis at the age of 17. First symptoms of stricture (in 1857) twenty-one years after. In 1859 he had a swelling of the perinæum, and was operated upon by Mr. Michon, in Paris, but the patient could give no information regarding the operation. Whether he was urethrotomized, or simply an abscess was opened, I could not ascertain. He applied for admission at the "Retreat," on account of dysuria, and great frequency of micturition (every hour). Catheterism had been repeatedly attempted, without success, and was always followed by chills. Dr. T. C. Moffat, surgeon in charge of the hospital, requested me to examine the patient, and to do what I thought necessary. Bulbous bougie No. 10 revealed a constriction ¼ of an inch from the external orifice, another 2½, and a third 6 inches back, which proved to be extremely narrow. A capillary whalebone bougie was introduced into the bladder, and sufficient dilatation made with a tunnelled sound to admit my urethrotome, with which the strictures were incised deeply enough to admit No. 14 sound. Hemorrhage one ounce. No anæsthetic. No catheter retained. Urine drawn off. Chill in four hours, but none subsequently. Sound every second day. After the operation he was able to retain his urine three hours, and to pass a full stream. In a week Nos. 14 and 15. Slight hemorrhage. I saw him, from time to time, until November, when he left the hospital. I then lost sight of him, but he reappeared, April 17, 1867, when he complained again of dysuria, etc. He had neglected the use of his instrument. No. 7 could not enter the deep stricture. Capillary bougie, tunnelled sound to No. 7, and afterwards dilatation to No. 12, when he was again in a condition to pursue his occupation. He was kept under observation for several months, and finally went home to France.

Case VI.—Lawrence S., aged 28, was admitted into Bellevue Hospital, July 18, 1866. Two gonorrhœas, the first ten, the second four years before. First trouble in micturition (dribbling) in 1864. Several retentions. Dysuria. Stream thread-like, calls extremely frequent. Catheterism very difficult. The House Surgeon succeeded, after many attempts, in passing a gum bougie No. ¼, but when he wished to withdraw the instrument found it firmly held, about three inches back, and was obliged to make forcible traction to remove it; considerable bleeding ensued. The bougie was tied in a knot (Fig. 13), and the violence used to pull it out pro-

Fig. 13.

duced a laceration of the urethra at the seat of disease. Further attempts at dilatation proved useless. On August 4th, 1866, I introduced a capillary conductor, slid over it my urethrotome (Fig. 12), and divided the stricture from before backward, and afterwards discovered another constriction in the region of the bulb, which I also incised. The meatus urinarius was narrowed, and had to be divided. Very little hemorrhage ensued. No anæsthetic. No. 9 sound. Scalding in micturition. On the following day some swelling appeared in the prepuce; it increased so rapidly as to interfere with catheterism. On the fourth day there was considerable hemorrhage, besides a troublesome phymosis. After circumcision, the bleeding was found to have had its source in the frænum, which had been injured at the time the meatus was incised, and it was at once controlled by a pledget of lint. A gum catheter was introduced and retained 24 hours. In the excised prepuce there was found a little abscess, caused by infiltration of urine through the connective tissue of the frænum. These complications prevented the passage of dilating instruments, and on the tenth day No. 5 was with difficulty introduced. The tendency to further contraction soon became manifest in

the stricture of the pendulous portion. Accordingly, on the 3d of November, 1866, it was freely divided, from before backward, and from behind forward, with the same instrument, after the blade had been sharpened posteriorly to its blunted summit. Hemorrhage slight. No anæsthetic. No catheter retained. No. 10 sound. Subsequently dilatation was carried to No. 13, and the patient was discharged January 20, 1867, after having been instructed to pass his instrument at intervals of a week. I saw him six months after his dismissal; he was still using his sound, and was passing a normal stream of urine.

Case VII.—William H., aged 25, admitted to Bellevue Hospital, January 2d, 1867. Four gonorrhœas. During one of these attacks of urethritis he suffered much from chordee, and had the "chordee broken up" by a sharp blow with a book; free hemorrhage ensued. Persistent gleet. Dysuria. Several retentions. Failure of dilatation. Very narrow meatus. Stricture two and a half inches from the external meatus; another, very tight, five inches back. On April 7th 1867, free division of meatus with Civiale's "bistouri caché." Internal division of the two strictures with the tunnelled urethrotome. Hemorrhage inconsiderable. No. 14 conical sound. In a few hours he urinated, contrary to directions, without the aid of a catheter. No chill or fever. April 29th, No. 15 sound. Stream of urine normal. He remained under observation for several months, and was taught to pass a sound for himself.

Case VIII.—John P., aged 52, admitted to Bellevue Hospital, Jan. 3d, 1867. Three gonorrhœas; the first at the age of sixteen. Persistent gleet. Stricture of twenty years' standing, four and a quarter inches back. Contusion of perinæum, not followed by urethral hemorrhage, a year before admission. Dysuria. Very small stream of urine. Great frequency of micturition. Hemorrhoids. Dilatation to No. 8 in 1861. Neglect. Dysuria in 1863. No treatment since. When brought to the hospital in January 1867, he had complete retention. Catheterism with the smallest bougies failed, but after a hot bath he passed about a pint of urine in an interrupted, thread-like stream, in the course of an hour. On the following day the House Surgeon succeeded in introducing a gum bougie No. ½, and in gradually effecting dilatation till a catheter could be passed, when five pints of urine escaped, and shortly after three more pints. This sudden evacuation of such a large amount of water caused a severe attack of cystitis. Dilatation was persevered in, but up to March 24th nothing larger than No. 4 gum bougie could be introduced. April 13th, internal division with the tunnelled urethrotome. Slight hemorrhage. External orifice incised. Sounds to No. 16. No catheter retained. Urine drawn off for two days. On the third day slight febrile movement. Sound every second day. In a week small abscess in the scrotal walls. Three or four days after, another small collection of pus in upper and inner part of left thigh. "Phlegmasia alba dolens" of the left leg and thigh. The whole limb was enormously swollen, and presented the characteristics of what is called milk-leg in lying-in women. The enlargement gradually but slowly subsided, and he left the hospital, July 15th, 1867. No. 15. Oct. 9th, 1867, general health much improved. He had introduced No. 15 once a week since his dismissal. He called my attention to a number of varicose veins in the hypogastric region, which appeared soon after the swelling of the leg had subsided; some of these veins had increased to the size of the little finger. I could trace them from the left to the right groin. Pressure of the common trunk, in the right groin, to which they all converged, increased their volume by about one-third. It became evident to me that there was obstruction of the left iliac vein by a thrombus; this was the explanation of the "phlegmasia dolens." You will remember that in October, 1869, I exhibited to you the patient, and gave this explanation of his condition. His stricture had given him no trouble, he was passing his instrument once a week, but he suffered much at times from his cystitis.

Case IX.—Bellevue Hospital, April 22d, 1867, Charles W., aged 26, narrow stricture of two years' standing, six and a half inches from the external orifice. Failure of dilatation. Dysuria. Internal division with the tunnelled urethrotome. Hemorrhage two ounces. Sounds to No. 16. No catheter retained. Urine drawn off for two days. No rigor. Patient up on the sixth day. Was seen six months subsequently, when he could pass a normal stream of urine. Sound once a week.

Case X.—(May, 1866.) James M., aged 22, first and only gonorrhœa in January, 1865. Constant dribbling from overflow two months after, which compelled him to wear a urinal to keep his garments dry. The dripping of urine continued up to the time of his applying to me for relief. Stricture two inches and a quarter from the external orifice, which admitted but a capillary bougie. Gradual dilatation to No. 6. Urethra very sensitive. Rigors. No further progress. June 12th, endoscopic urethrotomy (according to Desormeaux). Incision insufficient. Deeper incision, with the tunnelled urethrotome (Fig. 12). Hemorrhage about half an ounce. No. 12 steel sound. No catheter retained. No chill or fever. June 16th, micturition every two hours, in a full stream. No disturbance at night. November 11th, 1868, the patient introduced before me No. 15 conical sound, without difficulty. He is now in the enjoyment of good health, and continues to pass his sound every two or three weeks.

My experience has led me to consider urethrotomy from before backward as a safe and proper operation, when skilfully performed, with the aid of a conductor, especially in narrow constrictions of the pendulous portion of the urethra. In strictures of the sub-pubic curve I would now do divulsion or the external division in preference.

The same objections made to Maisonneuve's urethrotome have been urged against mine. I have therefore followed Mr. Voillemier's example, and placed a guard over the blade (Fig. 14).

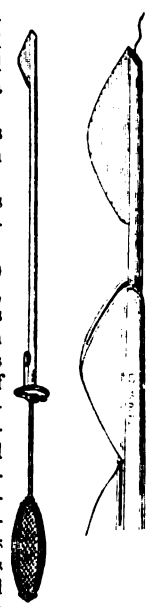

Fig. 14.

The present tunnelled urethrotome is straight, and designed for operations in the pendulous portion of the urethra.

I shall now give you some instances of retrograde urethrotomy in the antescrotal portion.

Case XI.—(Bellevue Hospital, 1860.) F. B., aged 47. Impassable stricture, from gonorrhœa, three and a half inches from the external orifice. Dribbling from overflow. Abscess at the root of penis (right side). Impending retention of urine. External urethrotomy in the perineal region. A narrow stricture encountered in the region of the bulb, and freely divided. The current of urine having been turned, the first stricture became permeable, and was gradually dilated to No. 8, but no further progress could be made. In three months this stricture was freely divided, from behind forward, with Civiale's urethrotome (Fig. 9), and sounds to No. 14 introduced. Went away at the end of a month, and was

not seen by me until four years afterwards, when I explored his urethra, and found that the stricture had recontracted to a very considerable extent (from neglect). I advised him to submit to a course of dilatation, but he did not return. He was readmitted to Bellevue Hospital, and divulsion was finally resorted to, with a good result.

Case XII.—(June, 1866.) Robert M., aged 36. Old stricture, with urinary fistulæ. External perineal urethrotomy. Internal urethrotomy (retrograde) with Civiale's "bistouri caché," for a stricture one and a half inches from the external orifice. Slight hemorrhage. No. 13. No catheter retained. Good result.

Case XIII.—(June, 1866.) James W., aged 38. Dense stricture of two years' standing, one and a half inches from the external orifice. Retrograde urethrotomy, with Civiale's "bistouri caché." No. 18 sound. Moderate hemorrhage. No catheter retained. No rigors. Good result.

Case XIV.—(February 28th, 1868.) John D., aged 18. Three gonorrhœas. The first two years before. Dysuria and dribbling since three months from the first urethritis. Rigors every day. Meatus urinarius contracted, indurated, and very sensitive. Two narrow strictures, 2½ and 5½ inches back. Capillary bougie and tunnelled sounds Nos. 3 and 4. Gum catheter retained twenty-four hours. Sounds Nos. 7 and 8. The constriction 2½ inches back was very dense, and would yield no farther to dilatation. Rigors. Meatus incised. March 13th, retrograde division of the stricture of the pendulous portion with Civiale's urethrotome (Fig. 9). Hemorrhage half an ounce. No anæsthetic. No catheter retained. No. 12 sound. Scalding in micturition, but no chill or fever. Good stream of urine. The deeper stricture gradually dilated. In two weeks he left town, and could then pass a No. 12 sound, which he was using once a week, six months after, when he was last heard from.

I shall now give you the details of the case of congenital stricture operated upon January 11th, 1870.

Case XV.—Lewis H., aged 32. Temperate, married, one child. Has never had venereal disease. Had congenital phimosis; the aperture in the foreskin was of the calibre of a "darning needle." From infancy he had had trouble in micturition. He said that during urination he had always had a sensation as if "a string had been tied around the penis, about three inches from the end." The stream of urine was gradually diminishing in size, and he was compelled to strain much at times to pass it drop by drop, but had never had retention. For the last five years he had had a gleety discharge. He once had slight hemorrhage during micturition, and from that time he thought the constriction of the urethra was gradually extending farther back. In the fall of 1869 he was circumcised, and his condition somewhat improved, but his medical attendant discovering a narrow stricture at the meatus, sent him to the city for treatment. Penis normal. External orifice indurated; would admit but a small probe, which could be carried back three inches without impediment. After free incision of the meatus, bulbous bougie No. 2 arrested at 1½ inches. No. ½ showed a long constriction, which extended back to the peno-scrotal junction. A blunt-pointed, narrow, straight bistoury was introduced, and the canal incised, from the peno-scrotal junction to the external orifice; then Civiale's bistouri caché was used to make a freer division. No. 10 to the peno-scrotal junction. No anæsthetic. Very little hemorrhage. Quinine, etc. Gum catheter No. 5½ retained twenty-four hours. You will remember that I considered the incision near the peno-scrotal junction as insufficient, inasmuch as the sound No. 10 would not go beyond that point; therefore, on the sixth day, I resorted to divulsion, with result of introducing No. 10 into the bladder. By an oversight, no quinine was given. Rigor. No fever. Slight hemorrhage. No catheter retained. Good stream of urine three times a day. No. 10 every second day. He went home on January 28th, and his physician now passes the instrument twice a week.

It is scarcely necessary for me to speak again of the indications and contra-indications of this operation, for I believe I have made them sufficiently clear to you.

The dangers have already, in an incidental way, been alluded to, and I shall now only name some of them in the order in which they usually occur. Hemorrhage is apt to follow the very deep incisions, likewise in filtration of urine and abscess, but pyæmia may supervene upon the merest scarification.

I have been very fortunate in my fifteen operations, for, though a serious complication—thrombosis (Case VIII.)—has been encountered, I have no fatal result to report. Relapse followed in some cases, but the cause was evident, and it need not generally be feared if catheterism is continued at intervals of from one to four weeks.

The subject of internal urethrotomy will be terminated at our next meeting, when the treatment of strictures in the fossa navicularis and at the external meatus will be discussed.

Original Communications.

THE HISTORY AND USES OF BELLADONNA.

READ AT THE LAST ANNUAL MEETING OF THE ONONDAGA MEDICAL SOCIETY,

By WM. T. PLANT, M.D.,

OF SYRACUSE, N. Y.

In looking over our medical journals, I have often noticed the frequent reference made to belladonna, and its derivative, atropine. While the standard works give but little space to its consideration, we scarcely take up a medical paper that does not pay some fresh tribute to its remedial powers.

That a medicine which was known to the ancients, and which has never been quite lost sight of by the profession, should receive in these latter days so many favorable notices, would seem to argue that, notwithstanding the experience of ages, there is still something worth while to be learned concerning it.

In preparing this article, no originality is aimed at; I only purpose to put the recorded experiences of others into a connected and available form, at the same time giving such items of history as I have been able to meet with in the books and journals at my command.

Belladonna grows, or can be grown, in all temperate latitudes. Botanically, it belongs to a large family, the genus Solanum, remarkable for the variety of its species. It includes the most nourishing esculents and the most deadly poisons. The potato, the egg-plant, the tomato, bitter-sweet, henbane, stramonium, and the deadly night-shade, are all brethren of the same family.

It has been described by ancient and modern writers. During the 16th and 17th centuries it was called "Solanum furiosum," probably from the peculiar delirium excited by it. In Macbeth, Shakespeare is

thought to have referred to it by the name of "insane root." After the witches had vanished from sight, he makes Banquo ask: "Were such things here as we do speak about? Or have we eaten of the insane root, that takes the reason prisoner?"

An old author says, "It is called Bella-donna from the Italian ladies using it to take away the too florid color of their faces." Its popular name of deadly night-shade is of German origin, and sufficiently indicates its dangerous character. All parts of the plant are actively poisonous, though only the leaves are officinal. It is highly ornamental, often growing in shaded places, and is sometimes cultivated. Its graceful flowers are succeeded by a berry, which, when ripe, is of a dark purple color, having a sweetish taste, and closely resembling a cherry. These alluring characters have led to many cases of accidental poisoning. In some instances, large numbers of men have simultaneously been rendered delirious by it. Plutarch relates that when the Roman army under Antony was retreating from the Parthians, provisions became so scarce that they were constrained to venture upon any vegetable to be had. "Among others, they chanced upon an herb that was mortal, first taking away all sense and understanding. He that had eaten of it remembered nothing in the world, but employed himself in moving great stones from one place to another, with as much earnestness and industry as if it had been a business of the greatest importance. Through all the camp men were seen grubbing upon the ground with stones which they carried from place to place." These remarkable and very likely exaggerated effects upon the Roman soldiery have been attributed to this plant, since no other poison known produces a delirium of so fanciful a nature. History tells how the Scots mixed the juice of belladonna with the food with which, by agreement, they were to supply the Danes, and how the latter became so intoxicated that the Scots killed the greater part of their army. Orfila gives an instance where a hundred and fifty soldiers exhibited all the symptoms of poisoning, and finally recovered. This tendency to recovery after the most alarming symptoms should not be lost sight of in judging of the value of antidotal measures. In many cases, complete recovery has taken place without resort to remedies, where large quantities of the poison have been ingested.

The symptoms of poisoning by this agent are well-marked and tolerably uniform. They are, extreme dilatation of the pupils, a remarkable dryness and constriction of the mouth and throat, giddiness, and a delirium which is usually of an extravagant and pleasing character. If a fatal dose has been taken, the face becomes flushed and tumid, vision is lost, the stomach and bowels are insusceptible of impression, feeling is abolished, and the whole nervous system paralyzed.

Though belladonna has been known and used for centuries, the isolation of its active principle has been reserved for modern science. The discovery of atropine appears to be due to Brande. All parts of the plant yield it, but in very small quantities, an ounce of the root giving but about one grain of the alkaloid. It is an agent of extraordinary energy; two-thirds of a grain have produced the most alarming symptoms.

In order to comprehend the peculiar adaptability of this agent to certain diseased conditions, it is necessary to understand something of its physiological action. Recent experiments have added largely to our knowledge of this branch of the subject. Dr. Harley, of King's College Hospital, gave physiological doses to man, the horse, and the dog. After a short time the pulse was increased in frequency, force, and volume, with an increase of temperature. These were prominent and constant symptoms. Dr. Brown-Séquard has *seen* a diminution of the calibre of the blood-vessels in the membranes of the spinal cord after belladonna, thus proving that it excites the capillaries to contraction. It has also been shown to be a powerful excitant of unstriped muscular fibre. These effects are considered due to a stimulation of the sympathetic nervous system. Dr. Richard Hughes regards it not only as an excitant of the sympathetic, but a depressant of the cerebro-spinal system. The characteristic dryness of the throat he considers due to a depressing influence on the pneumogastric; its action in whooping-cough or asthma may be explained in the same way.

The therapeutic applications of this agent are various and important. We notice, first, its use in poisoning by opium.

Contrary to general opinion, a knowledge of the antagonistic properties of opium and belladonna seems to be of early date, though lost sight of until revived a few years ago. As early as 1570 we are told of Italian pedlers who excited the wonder of the common people by giving the root of belladonna to alleviate thirst. Its noxious effects were averted by vinegar, wine, or *theriaca*, the latter being a preparation of opium in common use at that day. In 1661, a man who had swallowed a spoonful of the inspissated juice of night-shade root recovered after using theriaca and juice of rue. In 1677, Faber writes of thirteen persons poisoned by eating belladonna berries, ten of whom were treated by theriaca. Again, in 1776, two of five cases of poisoning by this herb were treated by opium.

Within a few years, the mutually antidotal properties of these two agents have been so often shown as to deserve general belief. In several particulars they are quite opposite in their effects on the system. For instance: Opium contracts the pupil; belladonna dilates it. Opium produces constipation; belladonna relaxes the bowels Opium produces deep sleep; belladonna tends to wakefulness and extravagant fancies. Children are very readily affected by opium, while they are remarkably insusceptible to belladonna, and sometimes bear very large doses before cerebral symptoms and dryness of the throat are produced. In 1859 Dr. Fuller gave it as a rule, that the younger the child, the larger the proportionate dose of night-shade required to produce its physiological effects; every one knows that with opium the reverse is true. A proof of the antagonism of these agents is also furnished by those cases, of which several are on record, where mixtures containing poisonous quantities of both opium and belladonna have been swallowed without producing, to an alarming extent, the baneful effects of either.

The plan of giving belladonna as an antidote to opium has been attended with such gratifying results that it is fast becoming the established practice. From the numerous cases reported, I select the following: Two are recorded in the London *Lancet*, 1868, where ten drops of the tincture were given every half-hour. In one of these, in which about an ounce of laudanum had been taken, the pupils did not begin to dilate until one hundred and ninety drops were administered.

An infant five weeks old had taken nearly a drachm of laudanum. The surface was livid, and pulse and respiration were nearly suspended. Fifteen drops of belladonna tincture, every fifteen minutes until about a drachm had been given, saved the child.

In 1862, Dr. Wm. F. Norris, of Philadelphia, gave in the aggregate seventy-five grains of the extract of belladonna to a young man who had swallowed the greater part of a drachm vial of morphia. In this case galvanism and the shower-bath were also used, and the man finally recovered.

A readier way of influencing the system in desperate cases of narcotism is by the subcutaneous injection of atropine. Several striking and beautiful examples of the success of this plan have lately been communicated from authentic sources. In one case the lips were livid, respiration was reduced to seven, the pulse was gone, there was frothing at the mouth, and the case looked hopeless. One-sixtieth of a grain of atropine was thrown under the skin. In fifteen minutes its effects were perceptible in the dilating pupils and more frequent respirations. In thirty minutes another sixtieth was introduced. Recovery was complete in two-and-a-half hours. The foregoing case resulted from the hypodermic use of half a grain of morphia.

Professor Wilson, of Chicago, gives in the *Journal of Mat. Medica* an instance where a quarter of a grain of atropine was injected under the skin for poisoning by morphine. Almost instantly the contracted pupils became dilated, the stertorous breathing was replaced by a hurried respiration, and the patient soon recovered.

A remarkable case was communicated to the MEDICAL RECORD, last year, by Dr. Buttles, lecturer on Gynecology at the University Medical College, New York. In a woman, aged thirty-eight, symptoms of poisoning came on after the hypodermic use of fifteen minims of Magendie's solution. She soon stopped breathing. Artificial respiration was resorted to, and kept up for an hour and a half after life seemed extinct, when, at the suggestion of Dr. Budd, one-sixtieth of a grain of atropine was thrown under the skin. In fifteen minutes there were signs of life, and the pupils began to dilate. In twenty-five minutes she began to breathe, and was soon beyond danger. These are but few of many such cases recently reported. I believe that incomparably the best treatment for desperate cases of narcotic poisoning is by the subcutaneous use of atropine, and that no case should be regarded as hopeless, while life remains, until this expedient has been tried; for of the antagonism existing between these drugs there can be no question. In a paper on their mutually antidotal properties, published in the Transactions of the State Medical Society for 1865, Dr. Downs truly remarks, "that when we find the stomach harboring from ten to fifty grains of extract of belladonna, or fifteen to twenty grains of muriate of morphia, without any injurious effect being manifest, it will naturally suggest itself to the practitioner that some latent principle is at work, exerting a controlling influence upon the noxious drug and neutralizing these otherwise potent elements." In these cases, then, the antidote may be, and often must be, given in doses that would be hazardous under other circumstances. The rule would seem to be, to use it largely, frequently, fearlessly, until it produces its specific effect upon the pupil, the throat, or the brain.

After what has been said of the reciprocally antidotal properties of these drugs, we hardly need call attention to the treatment proper to be pursued in poisoning by belladonna or atropine. The last edition of our Dispensatory states that it would be unsafe to rely on opium to the exclusion of other measures. But we would say, use such other measures as may seem proper, but let the main reliance be on opium; give it promptly and freely, either by the mouth or skin, and preferably the latter. A number of cases of belladonna poisoning have been put on record where the adoption of this plan has been followed by recovery from a desperate condition.

In one case of poisoning by this drug, occurring in 1864 at the hospital in Prague, the Calabar bean was given as an antidote with success. As opium and the bean are both strongly myotic in their action, it is not improbable that the similarity extends to other effects.

As a remedy in that obscure class of affections known as neuralgias, belladonna enjoys a reputation next to opium. In the obstinate disease known as tic douloureux it has many times been employed successfully where other means have been faithfully and unavailingly tried. For the relief of all the lighter forms of neuralgia it is often effectual. Sometimes the endermic or hypodermic use of atropine succeeds where other methods fail.

For that troublesome affection known as irritable uterus, and for the nervous pains attending the menstrual period, belladonna enjoys a celebrity second to no other remedy. Dr. Burne, author of a work on constipation, alludes to the efficacy of belladonna in painful menstruation in the following terms: "I have usually prescribed it in the dose of a quarter of a grain of the extract where patients suffer for two or three days about the menstrual period. In urgent cases I advise it to be repeated in an hour, then in two hours, and so on until two, three, or four doses have been taken, and I have seldom been disappointed in the result. The following combination has been considerably used in irritable dysmenorrhœa, and is highly spoken of:

"℞. Camphoræ, ʒ ijss; Quiniæ Sulph., Ext. Belladonnæ, āā ʒ ss. Ft. pil. No. 80. Two to be taken hourly until the pain ceases."

Although the use of night-shade in epilepsy has been well-nigh superseded by the bromides, yet it is well not to lose sight of the fact that numerous tributes to its value in this affection have been published, and that it has sometimes succeeded when all other means have failed. In 1842 a French physician reported two hundred cases treated by this remedy, and from the Vienna Hospital eighteen cases are reported. Occasionally, permanent cures were effected; and generally the violence and frequency of the fits were lessened. But in recent cases only did the remedy appear to have more than a transient effect. In reading accounts of its employment in epilepsy, one is impressed with the similarity of action to the bromides. Frequently the fits are suspended for weeks or months, but they generally recur, and the disease acquires, at length, a tolerance of the remedy.

Tetanus is one of the diseases in which belladonna has often been employed, sometimes successfully. From its action in diminishing the vascularity of the cord, it would seem to be indicated in this disease, particularly for the relief of the opisthotonos; but, from published cases, we must conclude that the ordeal bean and nicotine are much more efficient agents. When given in tetanus, large doses are borne and required; a moderate quantity—say half a grain of the extract—may be given first, to be repeated soon, and increased as fast as the system shows its tolerance. In one case the remedy was thus pushed until five grains of the extract were given at once; in another, four; both recovered.

As a remedy for whooping-cough, belladonna has been known at least since the early part of this century, for in 1810 we have an account of thirty cases said to have been cured by it between the eighth and fifteenth days. Many favorable notices have since been published, and its value in certain stages of the complaint is now generally conceded. Dr. Fuller, of St. George's Hospital, combats the common opinion that pertussis must run a certain course. Treated by his method he rarely finds the whoop to last more than twenty-one days, and sometimes not more than ten. He uses gradually increasing doses of belladonna and sulphate of zinc. Professor Jacobi, of New York, prescribes for children six or eight months old, a sixth of a grain of extract three times a day; for those

three or four years old, half a grain. Given in these doses, he says the effect on the pupil or on the brain will hardly ever be perceptible. Dr. Valentine Mott was accustomed to prescribe belladonna in this disease in the following combination:—

℞. Acidi hydrocyan.....gtt. vi.
Ext. belladonnæ.....grs. ij.
Tinct. opii camph..... ʒ iij.
Syr. tolutani..... ʒ i.
Aquæ..... ℥ iij. M.

S.—A tablespoonful four times daily.

Without any opportunity to test the medicine in this disease, I am led to believe, from reports that I have read, that belladonna is in some way, probably from a depressing influence on the pneumogastric, capable of relieving and lessening the duration of whooping-cough; that in the early stage it is not of much value; that some epidemics are more amenable to it than others; and, finally, that it is as well adapted to the treatment of some other forms of cough—such as are thought to be dependent on an irritation of the par vagum—as to whooping-cough.

About the beginning of the present century, the author of Homœopathy announced belladonna as the natural cure, as well as preventive, of scarlet-fever, because, like this disease, it produces an affection of the throat and a cutaneous efflorescence. Since that day it has been given to thousands of children to test its prophylactic power, and, as often happens in medicine, the most contradictory reports come to us from observers equally intelligent and honest. For instance, Lehmann tried it faithfully in epidemics of scarlet-fever, and concluded that it was destitute of protective power. Dr. Alley, of the Orphans' Asylum, Boston, came to the same conclusion, after extensive trials; while its prophylactic virtues have been affirmed by those great men, Hufeland in Germany, and Guersant in France. From the fact that very many of those rendered liable by exposure do not take the disease, it is difficult to estimate the value of preventive measures. That *some* who have been subjected to prophylactic treatment have had the disease in its usual form and severity, goes very far to disprove the theory of Hahnemann. In 1851, Benjamin Bell, of Edinburgh, gave belladonna daily to fifty-four boys in one institution. Twenty-three cases of scarlet-fever occurred in this group. Probably this proportion is quite as large as will be found in most epidemics. Each of these boys took the drug for a month before the disease appeared among their number, so that there was ample time for the system to be fortified by its full preventive power.

In the treatment of scarlet-fever, particularly in the anginose variety, it has much testimony in its favor, and is undoubtedly a valuable remedy, though not in very general use. Professor Benson, of Louisville, treats the throat affection by inunction of the submaxillary and parotid regions with fifteen grains of the extract to the ounce of cerate. Others prefer its internal administration, giving it in small and frequent doses throughout the disease. By its influence on the capillary circulation, as noticed by Claude Bernard and other experimenters, it probably equalizes the circulation, and favors the appearance and continuance of the eruption.

Incontinence of urine, arising from weakness or paralysis of the vesical sphincter, is more certainly and speedily subdued by belladonna than any other remedy. Some difference of opinion has obtained respecting its mode of action in this complaint. The most reasonable theory seems to be, that by virtue of its property of stimulating the sympathetic nervous system, it causes contraction of those sphincters and muscular fibres that receive their nervous supply from that source. This view of its action is strengthened by the fact that it has the same influence over the sphincter ani as over that of the bladder, for in that rare affection, incontinence of fæces, we have accounts from the French of perfect success with this agent after failure by other means. That it possesses a decided and happy power in those troublesome states in which the sphincter of the bladder is at fault, may be readily proven by prescribing it for the first elderly person who complains of an indisposition in the sphincter to contract after urination, or to the first child troubled with nocturnal forgetfulness. Professor Jacobi says this trouble in children is almost always easily removed by belladonna. A complete cure was generally obtained in a week or less by the same doses as above recommended in whooping-cough.

Many years since, it was discovered that night-shade often acts as a laxative, but its employment for that purpose is of recent date. Its use in habitual constipation, to give tone to the intestinal tube and enable it to propel its contents without the spur of cathartics, logically follows a knowledge of its stimulant action on the nerves of organic life, by which the intestinal muscles are animated. This application of the remedy is an important one, and claims a moment's attention. In a case of facial neuralgia, recorded in the tenth number of Braithwaite, the extract, in small doses, acted as a purgative, which croton oil had failed to do. In a case of obstruction, where oil and clysters were employed for a week without result, half a grain of the extract every fourth hour, with belladonna ointment to the abdomen, produced free catharsis after four doses. In a paper read before the British Medical Association three years ago, Dr. Fleming strongly advises atropine to increase the peristaltic action of the bowels. He uses it in conjunction with sulphate of magnesia and aromatic sulphuric acid, and claims more than usual success in treating constipation by these means. I have lately used with good results a formula given in the RECORD, by Dr. Thompson of New York, as follows:

℞. Extract. belladonnæ.....gr. ¼.
Extract. nucis vom.....gr. ½.
Extract. colocynth comp ...gr. iij.

To form one pill, to be taken at night. Another may be taken in the morning, if necessary; but one soon becomes enough.

Prominent among the peculiarities of this most peculiar medicine is its property of arresting the secretion of milk. In this respect no agent known to the profession acts with so much energy and certainty. In all those accidents and conditions that make it desirable to prevent, diminish, or arrest the lacteal secretion in both breasts or in one, belladonna extract, rubbed up with water and applied to the areola, will usually effect the object. When the gland becomes inflamed, abscesses may often be prevented by a timely resort to the same treatment. Professor Storer's favorite prescription to inflamed breasts consists of ext. belladonna and sweet cream, equal parts. As, by its local application, one pupil can be dilated without affecting the other, so the secretion of one gland may be suspended while the other continues active.

The peculiar dryness of the mouth and throat caused by this agent has suggested its employment in ptyalism from mercury or other cause. I have had no opportunity to test it in this affection; but two physicians of this city have assured me of its efficacy in diminishing the salivary secretion.

In a lecture before referred to, Dr. Harley says this plant should stand at the head of all our stimulants, for no medicine in the Materia Medica approaches belladonna in its simple, direct, immediate, and powerful influence in exalting the force and rapidity of the heart's action. Regarding it as a stimulant to the organic nervous system, he considers that in all conditions where there is a depression of this kind of nervous influence, such as fainting from weakness or shock, the collapse of cholera, failure of the heart's action from chloroform or other cardiac paralyzers, the subcutaneous use of atropine is the most reasonable and hopeful means of resuscitation. I was lately consulted in a case of preternatural slowness of the heart's action occurring in a middle-aged man, usually quite well. I suggested fluid extract of belladonna as a cardiac stimulant. Ten drops were given three times a day with marked benefit. The pulse very soon rose from forty to sixty beats per minute, with great relief to the feelings of debility. The effect of a belladonna plaster in quieting a palpitating heart has long been known, and ascribed to a sedative action. May it not rather act as a stimulant, toning up the organ to do regularly and thoroughly the work that before it could only perform irregularly and incompletely?

Claude Bernard has shown that belladonna and the ergot of rye diminish the quantity of blood in the membranes of the spinal cord, and advises their use in inflammations and congestions of that organ. Paraplegia, depending on hyperæmia of the cord for its cause, would call for the same remedies. Claude Bernard's treatment for chronic myelitis is by ergot internally and the belladonna plaster externally. He states that his success has been greater than he had dared to hope for.

To the ophthalmic surgeon, belladonna is invaluable. In whatever way used, one of its first effects is to dilate the pupil. The introduction of atropine into ophthalmic practice a quarter of a century ago has left nothing to be desired as a mydriatic, since it is painless, cleanly, certain, and prompt. Whether the object is a continued dilatation to prevent or break up adhesions between the iris and the lens; to prevent the iris from protruding through an aperture in the cornea caused by wound or ulcer, or a temporary dilatation to facilitate operations, the solution of atropine meets every requirement. In case the dilatation continues too long, the Calabar bean extract may be applied to produce contraction. Both belladonna and atropine have been employed and extolled in the treatment of ordinary inflammations of the eye. A writer in the *British and Foreign Medical Review* says: "In our experience, few cases of scrofulous ophthalmia have resisted the careful use of a belladonna collyrium, and in many other varieties of inflammation of the eyes it proves scarcely less useful. For the intolerance of light that so frequently accompanies diseases of the eye, it is our surest relief. Even in some old and inveterate cases of photophobia, it will act most beneficially. Its internal use in cases of orbital neuralgia, resulting from over-use of the organ, is highly recommended."

In many other morbid states, belladonna has proved extremely serviceable. Such are the nervous vomitings of pregnancy, spasmodic asthma, especially where the dyspnœa is paroxysmal, with little or no secretion. And particularly is it useful in those affections about the anus, such as hemorrhoids, fissures, and fistulæ, that frequently cause spasm of the sphincter and excruciating pain. I have repeatedly seen prompt relief attend the application to inflamed hemorrhoids of an ointment made strong with belladonna and tannic acid, and I have lately seen recommended for the *cure* of this troublesome disorder the daily administration of fluid extract of night-shade in doses of two and a half drops. From its tendency to keep the bowels soluble by relieving the congestion of the over-distended intestine, I believe this application of the drug to be a very important one.

In spasm of the urethra, suppression of urine, rigidity of the os uteri during labor, chorea, gastralgia, and albuminuria, it has occasionally been employed with success. From its influence over the capillary circulation we would consider it applicable to the treatment of hæmoptysis. I can find but one reference to its employment in that disorder, and that is by Schroeder. His plan was to throw the dried leaves upon burning coals, allowing the patient to inhale the fumes; he reports success in all cases.

In concluding this paper, we have to offer as the result of our researches the following conclusions:—

1st. Belladonna and opium are mutually antagonistic and antidotal. In poisoning by either, the administration of the other should be held as a part of the established practice; and the antidote should be proportioned in quantity to the amount of the poison ingested. Especially is the hypodermic use of atropine or morphine applicable to desperate cases.

2d. Children will bear, and often require, proportionally larger doses of belladonna than adults.

3d. In neuralgias, epilepsy, and tetanus, it is occasionally most happy in its effects.

4th. In whooping-cough it has more testimony in its favor than any other remedy, and frequently shortens its course by many days.

5th. Its prophylactic power over scarlatina we regard as not proven, though it is a valuable remedy in the treatment of that disease.

6th. In incontinence of urine from a weakened or paralyzed sphincter, in paraplegia, and the whole train of symptoms attending irritation or inflammation of the cord, it is a medicine of the highest value.

7th. To the relief of habitual constipation it is better adapted than any of the usual remedies, because it directly unloads the distended capillaries and stimulates the relaxed muscular coat to contraction.

8th. In its influence over the mammary secretion it stands almost alone and unrivalled.

9th. In spasmodic contraction of all sphincters, and in spasmodic diseases generally, it is a most useful agent.

10th. Many morbid states of the eye are successfully treated by belladonna; among these, iritis and photophobia may be particularized.

11th. Lastly, this plant has properties peculiarly its own, which give it a special value, and therefore it is worthy of being better known and more used.

The Mount Sinai Hospital, N. Y.—During the year 1869, 648 patients were received into this institution. There were treated 906 out-door patients. Of those treated in the hospital there were—discharged cured, 510; improved, 71; not improved, 7; left before treatment commenced, 3. Total, 591. Died, 47. The average number of patients, 48½. The average time of residence in the hospital was 10 days. Prussia and Russia furnished 402 patients. The principal occupations of these in-patients were: domestics, clerks, glaziers, pedlers, tailors, housekeepers, and laborers.

Hôpital Lourcine.—Two thousand female syphilitic patients are treated yearly at the Hôpital Lourcine, Paris. Mortality, 1 in 27. Here the non-mercurial treatment is carried out to a great extent.

A PIN ENCYSTED IN THE WALLS OF THE HEART.*

By D. R. AMBROSE, M.D.,

ONSLOW, C. H., N. C.,

LATE HOUSE PHYSICIAN OF CHARITY HOSPITAL.

A NEGRO woman, forty years of age, reduced by an illness of six or eight months to a state of great emaciation, died after a few hours of intense pain, suddenly brought on by an effort to turn from her back upon her side. The autopsy showed that fatal peritonitis had been induced by escape of the contents of the stomach through a perforation of the anterior wall, an inch in diameter, situated about two inches from the pyloric orifice.

The case is presented on account of the following unusual discovery in the heart:—

On taking the organ in my hand, a hard and pointed substance was felt near the apex of the right ventricle, directed downwards and inwards (towards the median line of the body). On opening the ventricle, I felt the inner extremity of this foreign body near the apex and just beneath the endocardium. I now carefully dissected away the flesh until I had fully exposed this foreign body throughout its whole length, and found it to be an ordinary pin closely encysted, and completely traversing the whole thickness of the ventricular wall, with its point covered only by its own cyst and the visceral portion of the serous layer of the pericardium.

The head was covered by its cyst and endocardium. The pin had become brittle so as to break from slight pressure in manipulating the organ before I dissected it out. There were no symptoms of inflammation, nor of irritation of the heart; no hypertrophy; no dilatation, and no valvular lesions.

The pericardial cavity contained about an ounce of serum, but no lymph or pus.

The husband of this woman told me that she swallowed a pin nine years ago, from which she never had any trouble.

DELIRIUM TREMENS.

By E. P. BENNETT, M.D.,

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IN consequence of the diverse and conflicting opinions entertained by physicians regarding the treatment of delirium tremens, I am satisfied that the true nature of this disease is not well understood by many in the profession, and still less by the public at large. If a man addicted to the immoderate use of intoxicating beverages becomes wakeful, excited, and finally delirious, he is at once set down as having delirium tremens, and attacked with stimulants and opiates in the most heroic manner, without the least regard to the condition of the circulatory system or anything else. The idea with many is, he must sleep or die; and the result in many is, that if sleep is finally procured, by persistency in the stimulant and opiate plan, it is the sleep that knows no waking—death. Now there are two distinct and totally diverse conditions of the nervous system produced by immoderate indulgence in alcoholic potations, both attended by delirium of a peculiar character, and therefore both called delirium tremens—a mistake which often leads to the most fatal results.

Now it will be well to inquire, What is the true pathology of delirium tremens, and what are its causes, symptoms, and treatment? Delirium tremens and mania à potu are considered by many as synonymous terms, meaning the same thing, which may or may not be true. Delirium tremens is an indirect debility of the brain and nervous system, produced by constant over-excitement of the organ by any cause whatever. It may be by the long-continued excitement of alcoholic or other stimulants. Their habitual use, especially when persistent, wears out, finally, the excitability of the brain, and it falls into a state of torpor and inactivity incompatible with healthy action, and, if carried beyond a certain point, incompatible with life, and death ensues from exhausted excitability, as expressed by Darwin:—

> "The irritable fibre, goaded to contract,
> By repetition palsied, ceases to act."

But if, as is often the case, from inability of the stomach to retain the liquid fire, or from any other cause, the usual amount of the stimulant being suddenly withdrawn the organ fails to react on the brain through the circulation of the blood, that in turn falls into a state of indirect debility; but as its excitability is not entirely destroyed, a proper season of repose enables it to regain its normal condition, and resume again its former healthy functions. Now, this state of brain and nervous system may be produced by alcohol, or it may result from other causes, as long-continued mental excitement of any kind, as grief, anger, intense application to scientific pursuits, or the direct debility of certain diseases; but from whatever cause produced, it is characterized by the same train of symptoms, and amenable to the same mode of treatment. The symptoms are those of deficient innervation, and are as follows: Surface and extremities pale, cold, and covered with a cold, clammy sweat; face pale and haggard, with wrinkled brow, expressive of fear; pulse small and frequent; pupils small, with tremor of limbs, and with a state of mind which might be expressed by a condition similar to a fearful dream or nightmare. To this state of the system, and to this state alone, should the term delirium tremens be applied. Its pathology having been ascertained, its true treatment follows without the least difficulty. Its first indication is rest—absolute rest, so far as is practicable. The patient should be placed in a room as silent as possible, the stimulus of light and noise excluded; warmth applied to the surface by dry heat, nutritious food liberally supplied; and when these fail, moderate stimulation by aromatic spts. ammonia, or even whiskey and gentle narcotics. Digitalis has succeeded in my hands better than opiates. In most cases of real delirium tremens, the above mode of treatment will generally be successful.

But there is another and far different condition of brain and nervous system, induced by alcoholic stimulants, which is often mistaken for and treated as delirium tremens, and generally with the most fatal results. A man has had a spree; he becomes wakeful, excited, and finally delirious. His physician, having but one idea in his head, and that loosely placed, says delirium tremens, and immediately attacks it with heroic doses of brandy, opium, or morphine, and sagely remarks he must sleep or die, and he redoubles his efforts and finally accomplishes his object of procuring sleep; but it is a stertorous, apoplectic condition that knows no waking. Now let us analyze this case, and see what the trouble was. What were this man's symptoms? We find a young, vigorous man, of full habit, addicted to high living in eating as well as drinking; he has had a spree; his face is flushed; his eye red and watery; skin hot and dry; pulse full and strong; tongue white and dry; pupil small; conjunctiva injected, and delirium, generally of a violent and furious character, with intense head-

* This article is abstracted from the history accompanying a morbid specimen sent to our friend Dr. W. B. Lewis, of this city, for microscopical examination, and is published with the author's consent.

ache. Was this a case of delirium tremens? Can diseases so dissimilar in their character and symptoms, dependent on one and the same condition of brain, nerves, and circulatory system, require the same mode of treatment? Most assuredly not. Now this latter case, instead of being a case of delirium tremens, was one of mania à potu from a congestive state of brain, and required a course of treatment exactly the reverse of the former case. Whilst one would be benefited, as I have before stated, by good feeding, gentle stimulants, and anodynes, the other condition requires bleeding, purging, in a word, a mild or decided antiphlogistic course, according to the severity of the symptoms. With this as with other diseases, it should be treated according to circumstances, and not according to the square rule of Homœopathy, giving the same dose to the tender infant and the robust adult.

Progress of Medical Science.

Inoculability of Tubercle.—The *Lancet* gives the following summary of M. Colin's recent observations on this subject:—M. Colin observes—1. That the fact of the inoculability of tubercle is certainly proved. 2. That in all probability the deposits occurring in the lungs, liver, intestines, and other parts, have a double origin, proceeding partly from the tubercle deposited under the skin, and partly from the processes attended with the formation of pus around the wound; so that in most cases of inoculation there is at once absorption of purulent and of tuberculous matter. 3. The degree and amount of the results of inoculation are proportionate to the quantity of tuberculous matter inserted, and to the intensity of the surrounding inflammation excited, as is best shown in small animals. 4. The tuberculous matter is itself absorbed, and not any supposed virulent material, the absorption being chiefly effected by the lymphatics, through which it is slowly transmitted, and is ultimately deposited in the lung and elsewhere. 5. The pulmonary deposits which result from the inoculation of tubercle are truly tubercular, and occasion no doubt as to their nature when seen as firm semi-transparent granulations. Their nature is, however, less certain when they have become opaque, yellowish, or whitish, in consequence of degeneration or purulent resorption. Insoluble and finely divided foreign bodies, when injected into the veins and conveyed to the lungs, do not produce the same effects as tubercle; they occasion embola without manifest irritation at their periphery, or they become encysted in the centre of minute islets of pneumonic or inflamed lung.

Cure of Acute Orchitis in Twenty-four Hours.—F. Jordan (*British Med. Journal*) thus describes his treatment of a case of acute orchitis:—"A man, aged thirty, had intense pain, intolerable tenderness, and great swelling and induration in both testicles, and could not stand upright. The scrotum was covered with a solution of nitrate of silver (two drachms to the ounce), a stripe of vesication was established over the upper halves of both femoral arteries by means of liniment of iod., and the testicles supported by cotton wool. He was well in twenty-four hours."

The Digestive Powers of Pancreatine.—In the Academy of Sciences of Paris, M. Chauvin and M. Morat have recently read a paper "On the Pancreatic Juice," and the conclusions at which they have arrived are—first, that the general results of their experiments on artificial digestion with this fluid agree with those made by older experimenters, from Eberle to Claude Bernard. Secondly, that in such experiments with artificial digestion, the action of the pancreatic juice is not checked by the presence of gastric juice, nor by hydrochloric acid considerably diluted with water. Thirdly, that at ordinary temperatures, and in inert vessels, the juice does not act so energetically as when maintained at the temperature of the body, and under the influence of the movements of the digestive fluid. Fourthly, in the digestion that ordinarily takes place in the stomach—and this is a capital point—the pancreatic juice preserves its energies intact, notwithstanding the presence of the gastric juice, and may initiate in the interior of the stomach a complete digestion of the three species of alimentary substances. And, lastly, they state that in a clinical point of view they have obtained remarkable results with the aid of pancreatic juice and extract. —*Med. Press and Circular.*

Treatment of Nævus.—Dr. H. Bateman writes as follows to the *Lancet:*—I am desirous of calling attention to a mode of treating nævus which I have now successfully adopted for about fifteen years. It consists in the application of a tartarized antimony plaster to the surface of the tumor, and allowing it to remain until pustules resembling small-pox are produced, and sometimes still larger. The plaster I have used is ordinarily made by having one part of antim. tartarizatum mixed with two parts of melted empl. resinæ, and then spread upon thin leather or linen. It ought to cover the nævus completely, but need not extend beyond it. If it be detached from any cause before it has produced a sufficient amount of inflammation and pustulation it should be renewed immediately. If there be too much inflammation, poultices and fomentations of warm water may be applied. Should the skin be unusually insusceptible, or the nævus unusually thick, equal parts of tartarized antimony and resin plaster may be used.

With comparatively thin nævi the former strength is amply sufficient, and sometimes a single plaster will produce inflammation and pustulation enough to effect a cure. Should the nævus be thicker than usual the stronger plaster may be used.

Antidote of Nicotine.—The deleterious effects of the use of tobacco may be counteracted, if not entirely annihilated, by moistening tobacco, while undergoing the various preparations and fermentations previous to its delivery to the consumer, with a strong infusion or other preparation of water-cresses, since M. Armand has discovered that this vegetable contains principles which, without removing the peculiar aroma of tobacco, destroys the deleterious effects of the alkaloid.—*Chemical News.*

Use of Anæsthetics in Childhood.—Dr. T. Holmes, Surgeon to St. George's Hospital, in London, is not aware of any limitation to the use of anæsthetics in childhood. He has administered them at the earliest period of life, and believes that, with proper care, operations are safer with than without them, even in the the most exhausted and puny infants.

Castanea Vesca in Pertussis.—Dr. Nuziker, of Cincinnati (*Trans. Ill. Med. Society*), has recently published the statement that the infusion of the leaves of the chestnut, drunk freely, is capable of mitigating the severity and greatly lessening the duration of whooping-cough. He makes a simple infusion of the leaves, sweetens it with sugar or syrup, and allows the patient to use it as a drink.

Treatment of Goitre.—Prof. Lucke, of Berne, successfully treats goitre by injections of small doses of strong tincture of iodine.

THE MEDICAL RECORD.

A Semi-Monthly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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FOREIGN AGENCIES.

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New York, April 15, 1870.

THE NEW HEALTH LAW.

THE Act to reorganize the local government of the city of New York, which passed the State Legislature April 5th, 1870, embodies some radical changes in the future management of the health department of the Metropolitan Sanitary District. These are comprised in the following provisions:—

"The health department shall consist of the police commissioners of the city of New York, the health officer of the port, and also four officers to be called 'Commissioners of Health of the City of New York,' who shall be appointed by the mayor for a term of five years, two of whom must have been practising physicians in said city for a period of five years preceding their appointment. Said four commissioners of health shall receive an annual salary of five thousand dollars each. These several officers shall together constitute a board, which shall be the head of the health department.

"There shall be four bureaux in this department. The chief officer of one bureau shall be called the 'City Sanitary Inspector,' and he shall be a practising physician of at least ten years in the city of New York. There shall be another bureau, to be called the 'Sanitary Permit Bureau.' There shall be another bureau, to be called the 'Bureau of Street Cleaning.' The chief officer of another bureau shall be called the 'Register of Records.' And in said bureau shall be recorded, without fees, every birth, marriage, and death, and all inquisitions of coroners (excepting those whereby a jury find a death caused by negligence or malicious injury), which shall occur or be taken within the city of New York.

"It shall be the duty of said board, immediately upon organization under this act, to cause to be conformed to this article the code of laws and regulations then or lately adopted by the board of health for the metropolitan sanitary district, which shall be called the 'Sanitary Code.' And said health department is hereby authorized and empowered to add to such sanitary code rom time to time additional provisions for the security of life and health in the city of New York, and therein to distribute appropriate powers and duties to the members and employés of the board of health. Any violation of said code shall be treated and punished as a misdemeanor.

"Whenever, in any law of this State, any power or duty shall be conferred or enjoined upon any board of health, or in relation to the board of health of the metropolitan sanitary district, except as herein provided, the same shall be applicable to the department hereby created."

As can easily be seen, the foregoing is the work of persons who are merely politicians, and not sanitarians. The provisions appear to cover everything and give every indication of the best of intention, but it is to be feared that their practical workings will be very seriously trammelled by non-medical influences. In fact, we cannot see how it can be otherwise with the small minority of medical men in the board. The police commissioners, who can be none other than working politicians, will, with two non-medical commissioners to be appointed by the mayor, make six in all, against three medical men. The medical element, instead of holding the balance of power, as it properly should, is virtually nothing more than advisory, and, judging from the teachings of past experience, every member of the profession knows what that implies.

One of the defects in the Metropolitan Health Bill is also part of the present one, in making the health officer of the port a commissioner. The duties of this functionary are of such a distinct character that his membership of the board is altogether unnecessary, nay hurtful. If he performs his duties properly, he necessarily acts with the board; and if the contrary is the case the said board should be able to call him to account.

The creation of special bureaux, under the jurisdiction of the board, is a feature which, on the whole, is commendable, especially when that for street-cleaning is added. This latter incorporation is a long stride towards enlightened legislation, and if the importance of its enforcement is appreciated by the commission, there will be a splendid opportunity for gaining popular favor. The Metropolitan Health Board never had any such control of the street department, and consequently suffered very much in the estimation for usefulness with those who could not understand the position. They could preach cleanliness, but were powerless to enforce their doctrine. The new board will have the right and privilege, and, if they do not make the most of them, will be held by the community to a proportionally greater accountability. The majority of themedical profession have endorsed the action of the present board, and, with few exceptions, its members have done admirably. The medical commissioners have been gentlemen in whom we have placed confidence, who were competent and conscientious, although much hampered by political chicanery. As a body of medical gen-

tlemen they have, barring a few family quarrels, very faithfully represented medical opinion, and have placed our profession in no unenviable light before the community. In truth, it must be acknowledged that they gave the true character to the board, and were the leaders in almost every scheme for sanitary reform. That they did not accomplish more in that direction is not due to any lack of a right disposition, but to the want of the necessary support from the non-professional members. In the face of this accepted fact, without wishing to prejudge the usefulness of the new board, we dare not expect very much in the way of improving the health of the district. The opinions of three against six are not worth a great deal when the matter comes to a square vote. At all events it must be conceded that the new commission, caparisoned as it is, will have no easy task in even gaining for itself the reputation of the present board, and a still harder one in establishing the necessity for a change. The Metropolitan Board have done well, exceedingly well. Dare we hope that the new health department that is to be will do better?

As the Charter now is, all the appointing power for this department is taken from the hands of the Governor, and placed in those of the Mayor. Any one who has watched the politics of the city is aware that, however just such a change might be on principle, it is absolutely wrong in practice. We assert this notwithstanding the presumption that the new election law is calculated to do away with a great deal of the existing corruption, and that the Charter provides for the reduction of the number of aldermen, and their election on a general ticket. The latter may have the tendency to weaken the pot-house and ward elements, and give the people as a whole a fair opportunity to choose respectable representatives. If our Common Council were really composed of trustworthy men, the Mayor would be as likely to make as good and as appropriate appointments as the Governor.

—Since the above was written, and just before going to press, we learn that the Mayor has made the following appointments for Health Commissioners: Stephen Smith, M.D., Giovanni Ceccarini, M.D., Magnus Gross, and John Mullaly.

Post-mortem sentiment is very well on tombstones or in village newspapers, but we can conceive of nothing more out of place in a medical report than the following sentence, which occurs in the account of a case of ovariotomy performed recently in Columbus, Ohio:

"The patient now withered like a delicate flower under the rays of a scorching sun, after a scathing autumnal frost. The fell destroyer made rapid work, and the patient died at four o'clock A.M."

We are not astonished after this outbreak to be informed that—

"In most cases, and especially in large tumors, it is not only with the greatest uncertainty, but simply impossible to determine certainly the size and character of the pedicle before operating."

It is "with the greatest uncertainty" that the profession can "determine certainly" anything whatever in a case so reported, save that the writer is a "fell destroyer" of the Queen's English.

It is desirable that the next meeting of the American Medical Association will be a success, not only as regards the number in attendance, but in the scientific material that may be presented. Those who may attend, and who may have a desire to profit by such attendance, have a claim on such as may have communications to make: and that is, that the articles shall be reasonably brief and to the point. Let all lengthy papers be presented in abstract, that the time that would otherwise be used in reading them *in extenso* may be devoted to discussion. If this cannot be done by ordinary means, the Association should, in its own interests, compel presumptuous authors to respect the general opinion.

Reviews and Notices of Books.

The Physiology of Man. Designed to represent the existing state of Physiological Science as applied to the functions of the Human Body. By Austin Flint, Jr., M.D., Professor of Physiology and Microscopy in the Bellevue Hospital Medical College, N. Y., etc., etc. Secretion; Excretion; Ductless Glands; Nutrition; Animal Heat; Movements; Voice and Speech. N. Y.: D. Appleton & Co., 1870. 8vo, pp. 516.

This is the third volume of a series of four on the Physiology of Man, which has been promised by our talented and painstaking countryman; and in its general execution, scope and detail of treatment of the subjects considered, it more than equals the well-deserved reputation of its predecessors. The volume as such, while it is complete in itself, is after all only a part of a grand whole, which is to be finished by the fourth volume. Some of the subjects treated of in the present work have an especial interest to the advanced student of physiology, from the fact that they contain for the first time, embodied in a permanent form, many original observations of our author, prominent among which must be mentioned those bearing upon a new excretory function of the liver and upon the mechanism of glycogenesis. A delay in the reception of the work compels us, in the interest of our readers, to pass it by with a hasty reference to its general merits, rather than by a still longer delay to give it that extended review which its intrinsic worth demands.

A Practical Treatise on the Diseases of Children. By J. Forsyth Meigs, M.D., and William Pepper, M.D. Fourth edition, revised and greatly enlarged. Philadelphia: Lindsay & Blakiston. 1870.

Good books on the diseases of children are so scarce that we cordially welcome this new edition of the once popular work of Dr. Meigs. The labor of revision was found to involve so many changes, and the addition of so much new material, that Dr. Meigs called to his assistance Dr. William Pepper, a gentleman of large experience, and well qualified for the task. The result of their joint labors is now presented to the public, and so great have been the changes that the volume before us has really the interest of a new book. Several of the articles have been much enlarged, es-

pecially those on convulsions, croup, tracheotomy, chorea, thrush, and parasitic diseases of the skin. The articles on diseases of the stomach and intestines, and upon eczematous affections, have been either re-written or entirely re-arranged. In the old editions the consideration of several important subjects was altogether omitted; that defect has been supplied in the present volume by seventeen new articles, treating, in an exhaustive manner, of the diseases of the heart, including cyanosis, chronic hydrocephalus, tetanus, and atrophic infantile paralysis; rheumatism, mumps, rickets, tuberculosis, and infantile syphilis; typhoid fever, etc., etc. On these and other topics the most recent opinions of eminent foreign and American authorities are impartially reviewed, and compared with the results of the author's observations and experience.

The general plan of the original work has been preserved, and probably nothing more clear and convenient could have been substituted for it. The introductory essay on the clinical examination of children gives much valuable information in small compass. The diseases are divided into eight classes, and each class is subdivided into sections. Class I. treats of diseases of the respiratory organs. Class II. is devoted to disorders of the organs of circulation. Under Class III. we find a systematic consideration of the diseases of the digestive organs, taken in order, from the mouth and stomach to the intestines. Diseases of the nervous system find their place in Class IV. Class V. includes constitutional diseases. The eruptive fevers constitute Class VI. Diseases of the skin are treated of in five chapters, under Class VII.; and Class VIII. disposes of the subject of worms in the alimentary canal.

The portion of each chapter devoted to treatment, and the discussion of therapeutic measures, is remarkably large and satisfactory. In this department many radical changes are conspicuous. The authors have entirely abandoned the use of calomel, for instance, in membranous croup, pneumonia, pleurisy, and all other diseases excepting congenital syphilis. In regard to this disease they say: "If the previous children of a mother have proved syphilitic, it is well to subject her to a mild mercurial course during her pregnancy." The use of venesection is advised as a rule in the early stage of acute pleurisy, in simple meningitis, and in vigorous subjects in eclampsia. It is also admitted in exceptional cases of spasmodic and membranous croup, pneumonia, pertussis, and, more rarely, in rubeola. But the opinions expressed in former editions on bleeding and calomel are explicitly retracted, and the more recent opinions are fortified by abundant statistics accumulated in the course of many years' additional experience.

A pretty free use of alcoholic stimulants is advised under certain circumstances, but only when there are undoubted signs of debility, and it is necessary to aid or sustain the vital forces. In this respect the views of the authors do not differ materially from those of a large majority of physicians both in this country and in Europe.

We think it greatly in favor of the volume before us that it is written in an easy, pleasant, and perspicuous style. Too many authors who have really valuable information to impart do not pay sufficient attention to the manner in which they express their views. We are rather surprised, however, in the present case, to find both ungrammatical and awkward expressions in the preface, while in the body of the work there is so little to find fault with. It is not in very good taste, either, to speak of the "kind favor" with which the former editions were received by the profession. Nobody buys a medical book as a "kind favor," nor ought any author to expect such kindness. Medical men buy books because they expect to learn something from them, and not for the purpose of obliging the writer or publisher. We can say nothing more favorable of the new book on diseases of children than that it may be safely purchased on its own merits.

THE PATHOLOGY AND TREATMENT OF STRICTURE OF THE URETHRA AND URINARY FISTULA.—BY SIR HENRY THOMPSON, F.R.C.S., etc. From the third and revised London edition, 8vo., pp. 359. Philadelphia: Henry C. Lea. 1869.

IT is somewhat difficult to speak in proper terms of this standard work of Sir Henry Thompson, for to those familiar with the former editions, nothing beyond the announcement of a new and revised edition can be necessary: to those who have yet to make its acquaintance, a just description would seem extravagant praise.

Originally published in 1854, when the Jacksonian Prize of the Royal College of Surgeons was awarded to it, it has been the chief means of making the author the highest living authority on the subject of which it treats. Indeed, his views upon all points connected with the pathology and treatment of stricture, are so familiar that discussion is unnecessary; it only remains to indicate the changes that increased experience has led the author to make in his work. In his preface these are distinctly stated. Instead of increasing the size of the volume, it has been materially reduced, partly by removing controversial matter regarding subjects upon which the profession is now agreed, and partly by dropping all the "illustrative cases," which are no longer required to justify the statements of so distinguished an authority.

Such additions as have been made to the work are mainly condensed from the author's recent "Clinical Lectures on Diseases of the Urinary Organs," which were reviewed in this journal last May. These, in brief, may be summed up as the substitution of flexible for metallic instruments in the dilatation of strictures—a revocation of all the author's previous views on this point; a consideration of the value of Endoscopy, of which the author has not a very high opinion, having "never yet found it of the slightest service in stricture;" the even distension of strictures by the author's dilator, instead of their rupture, as proposed by Mr. Holt; and a few additional suggestions concerning the therapeutical treatment of stricture.

The present edition, like its predecessors, is divided into twelve chapters, treating successively of the anatomy and physiology of the urethra, the pathology, pathological effects and causes of stricture, its diagnosis, and its treatment by dilatation, chemical agents, internal and external incisions; of retention of urine, depending on stricture, of urinary abscess and fistula, and, lastly, of stricture of the female urethra.

The mere fact of a work of this kind having reached its third edition may be said to place it beyond the reach of either censure or praise. But, as we have long regarded it as perhaps the ablest and most perfect monograph in the English language, we have re-read it with care from beginning to end; and it is simple justice to say that no one can do this without admiration of the author's learning, accuracy of detail, and extraordinary capacity for imparting information. The American edition is excellently printed and illustrated.

A PHYSICIAN'S PROBLEMS. By CHARLES ELAM, M.D., M.B.C.P. Boston: Fields, Osgood & Co. 12mo., pp. 400.

THE natural and moral diversities of individuals and races, and the laws which govern innate qualities, moral and intellectual, are subjects of practical interest to the

physician. In this work Dr. Elam attempts their investigation. It is thoughtfully and suggestively written, and calculated to direct intelligent inquiry concerning complex problems which some of the best minds are studying. One of the purposes of the author is to indicate the origin and mode of perpetuation of those varieties of organization, intelligence, and general tendencies towards vice or virtue, which seem to be so capriciously allotted to families, and to the human race generally. The chapters On Natural Heritage, and On Degenerations in Man, should especially attract attention, treating of subjects but little understood, and peculiarly regarding man as an individual and when aggregated in communities. Those on Moral and Criminal Epidemics, Illusions and Hallucinations, Somnambulism, and Revery and Abstraction, are full of interesting matter pleasantly imparted. Dr. Elam's "Problems" are well worthy of a wide circulation.

VITAL RESOURCES, or How to Become Physiologically Younger and Stronger. By JEROME KIDDER, M.D. New York: Published by the Author.

THE object of this little book, the author tells us in the preface, is "The setting forth that man is endowed with the possession of a plurality of personality." But for this announcement, the reader would never suspect the work to be anything more than a very feeble attempt to extol the virtues of electricity, of which the author eloquently asks: "Indeed, if the kind of undulations or vibrations of the ether, or of particles of matter producing what we call heat, can arouse the latent vitality of an egg till it spreads its wings in the aërial regions, a bird, why cannot electricity, under favorable conditions, arouse a latent inherited personality of an individual so as to give additional vigor, both of the body and the mind?" Unfortunately we are not "endowed with the possession" of powers sufficiently vigorous to grapple with this conundrum.

PHOTOGRAPHS OF DISEASES OF THE SKIN. Taken from Life, under the superintendence of HOWARD F. DAMON, M.D. With letter-press descriptions. Boston: James Campbell, 18 Tremont Street. 1870.

THIS admirable series of photographs, to which we have previously alluded, is now complete, and consists of twenty-four views, including typical cases of the principal cutaneous diseases. The selection of these cases has been made by Dr. Damon from several thousands, and the greatest pains have been taken to render each view, as a work of art, as nearly perfect as possible. No attempt has been made to represent the color, but the simple photograph, sharply defined, is preferable for purposes of study to anything but the most expensive colored drawings. These views are so clear that they will bear magnifying to life size with an ordinary lens. There would be more satisfaction, however, in examining them thus magnified, if the texture of the paper were less conspicuous. This defect the artist could probably remedy. Each photograph is accompanied by a letter-press description of the case, and the whole is contained in a neat portfolio.

REDUCTION OF DISLOCATIONS. By WILLIAM WARREN GREENE, M.D., Professor of Surgery in the Medical School of Maine, etc., etc.

THIS is a little pamphlet devoted to the consideration of the principal obstacles encountered in the reduction of dislocations, and the most appropriate treatment of these injuries. Professor Greene is of opinion—

I. That the main opposing force to the reduction of dislocations is the untorn portion of the capsular ligament.

II. That in our efforts at reduction the primary object should be the relaxation of the untorn portion of this ligament, and that whatever mode of procedure accomplishes this with most facility is the best.

III. That occasionally the small size or peculiar shape of the rent in the capsule, or, in peculiar conditions of the nervous system, muscular contractions, may constitute the major forces with which we have to deal; but that these cases are so extremely rare as not at all to invalidate the general rule.

The arguments of Professor Greene in support of these views, based as they are upon an extensive surgical experience, extending over a period of fourteen years, are well worthy the attention of the profession.

ON THE PHYSICAL BASIS OF LIFE. By T. H. HUXLEY, LL.D, F.R.S. No. 1. University Series. New Haven, Conn.: Charles C. Hatfield. 1870. Price 25 cents.

THE University Series, of which this is the first number, will consist of scientific and educational essays by the ablest men of Europe and America. The publisher announces his intention of making a selection that will be worthy of the careful thought of every educated person in the country. Professor Huxley's celebrated essay on "Protoplasm," or the Physical Basis of Life, cannot be too widely known, and if it is a fair specimen of the series they will soon become popular.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

STATED MEETING, MARCH 23, 1870.

DR. J. C. HUTCHISON, PRESIDENT, in the Chair.

THROMBOSIS OF PORTAL VEIN.

DR. JANEWAY presented a specimen of thrombosis of the portal vein taken from a man forty-seven years of age, who was admitted into Charity Hospital, June 16, 1869. He stated that in 1861 he had evidences of phthisis, in the shape of hæmoptysis, cough, profuse night sweats, and emaciation; that after a time these disappeared and he regained his flesh and strength; and that in 1867 these symptoms again occurred, and again in the course of time disappeared. In January, 1868, he was attacked with acute articular rheumatism, and it was not until September of the following year that it disappeared. Two weeks prior to admission he was again seized with rheumatism, for which he entered the hospital. Under the alkaline treatment improvement was marked and rapid, but on the 30th of June he suffered a relapse. This continued until the latter part of July, and on July 5th there was superadded diarrhœa and abdominal pain. In the early part of August ascites developed, and the liver is noted as reduced in size. On the 8th of August the distension was very great, with splenic enlargement and abdominal pain. Under the use of bi-tart. pot. the ascites disappeared. The latter part of September he was well enough to be a helper around the ward. No further notice was taken of his case until March 11th, when he was seized with chilly feelings, followed by fever, increased frequency of the pulse, and dry tongue. This, with dry tongue and constipated bowels, lasted for two days, when jaundice occurred, accompanied with splenic enlargement and pain on pressure. The abdomen contained a slight amount. Dr. Janeway saw him on the 17th, and found him jaundiced, with tongue dry, somewhat stupid, with normal pulse and normal skin. The right side of the thorax was retracted considerably; there was dulness on percussion over the right lung,

especially in its upper portion, with coarse and fine râles. The diagnosis of thrombosis of the portal vein was made, and also fibrous induration of the lung.

AUTOPSY.

The brain and larynx were not examined. The right lung was firmly adherent to the thoracic wall. The upper lobe of the right lung was the seat of fibrous induration with the attendant dilatation of the bronchi, and there was in this situation, besides, a small cavity surrounded by cheesy pneumonia. In the left lung were marked evidences of chronic bronchitis. The liver had its surface somewhat wrinkled, and its left lobe was considerably enlarged at the expense of the right. The whole organ was somewhat fatty. The spleen was of a deep blackish color, and weighed four pounds.

On opening the portal vein there was found occluding it a thrombus. This commenced by a tapering extremity at the junction of the superior mesenteric and splenic, and after extending for half an inch it occupied the whole vein, with the exception of a channel capable of admitting a small probe. The thrombus almost filled the vein as far as the bifurcation of the portal into right and left branches, in the latter of which it tapered to a considerable distance. The small branches were perfectly free from clot. The thrombus was firm, and of a reddish-grey color. In the middle coat of the splenic vein was a calcareous plate, about two inches in length, projecting into the calibre of the vessel sufficiently far to present some obstruction to the current of blood. Besides this the artery near the point of bifurcation contained a calcareous degeneration. Dr. Janeway was disposed to think that this thrombosis had been due to the obstructions referred to, and had possibly commenced when the patient first showed the signs of ascites. The kidneys were fatty. The intestinal mucous membrane was pale, and was coated with a large amount of mucus.

FIBRO-MYOMA UTERI, TREATED BY ELECTROLYSIS.

Dr. Neftel exhibited a fibro-myoma of the uterus, with the following history:—

Mrs. G., ætat. 42, mother of two children. After the birth of her last child, eight years ago, she has never recovered her former health, suffering from uterine troubles, dyspepsia, and pain in the lower part of the abdomen; the uterus continually increasing in size. Her menstruation became profuse, and caused a high degree of anæmia. She has been treated by different physicians, the diagnosis being hypertrophy of the womb. Last fall she came under the care of Dr. Sims, who made the following diagnosis: Fibroid tumor of the posterior wall of the uterus protruding into the uterine cavity; the uterus very much enlarged (the size of a man's head), felt through the abdominal wall as a solid tumor extending two inches above the umbilicus. The patient, of a delicate constitution, was suffering from intense uterine pains; her menstruation was profuse, her digestion impaired. Dr. Sims, after having treated the patient for several months without any noticeable change, proposed to me to try with him the electrolytic treatment of the tumor, and January 3, 1870, the first electrolytic operation was performed. Having placed the patient on the left side, the neck of the womb was brought in view by means of Sims' speculum. The cathode in the shape of a needle 12 inches long was introduced by Dr. Sims into the tumor; nine inches entering it through the posterior wall of the uterine cavity, the remaining part of the needle being carefully isolated. The anode—a broad plate—was applied to the skin near the hip. The current, beginning with two Siemens' elements, was gradually and insensibly increased to 15 elements during 11 minutes. The pain was considerable, and increased after the operation; but no febrile symptoms followed. The husband of the patient, who himself has studied medicine, repeatedly made very exact thermometrical observations with Geissler's instrument, and found after the operation the temperature one degree (Fahrenheit) below the normal, which must be attributed to the extreme anæmia of the patient. About a fortnight after the first electrolytic application, Dr. Sims found the tumor considerably smaller and softer. The second electrolytic application was made in the same way January 31, using 22 Siemens' elements during 10 minutes. February 21, the patient's husband wrote to me: "Dr. Sims has just left us, and he says that the tumor is less in size and more soft, so that he is amazed." Feb. 22, the third electrolytic application was made with 30 elements during 15 minutes; and March 2, the fourth application with 25 elements, 15 minutes. As it was, however, supposed that the tumor protruded into the uterine cavity, we proposed to use the next time, instead of a needle, a metallic sound, which should be isolated on the side towards the uterine wall, and should be brought into contact only with the supposed surface of the tumor. In this way we expected to attack from without the tumor that was already undergoing a regressive metamorphosis from within. Accordingly the fifth application was made March 9, with 25 elements during 15 minutes. The pain was severe, and increased afterwards. I have not seen the patient since, but Dr. Sims informed me that contractions of the uterus were felt after the last application. On the 14th March, the patient having exposed herself to a cold, symptoms of peritonitis set in, followed by a sudden collapse, ending in her death the next day.

I am greatly indebted to the enlightened and philanthropic gentleman—the husband of the deceased—for the permission to make a post-mortem examination of the abdominal cavity and of the uterus. The facts revealed by it are of the utmost scientific and practical importance, and will contribute to save many sufferers from a hitherto intractable diseased condition. I made the post-mortem examination in the presence and with the kind assistance of Drs. Sims, Metcalfe, Nott, and Greene, of Boston.

On opening the abdomen, the uterus presented itself anteflected, enlarged, the fundus not reaching the umbilicus within an inch. The serous membrane of normal appearance, without any adhesions; and about a tumbler of sero-purulent matter, not containing fibrine, was found in the abdominal cavity. A probe introduced into the uterine cavity proved that the anterior wall of the uterus was not much thickened,—perhaps as much as in the latter part of pregnancy. The large size of the uterus was almost entirely owing to its posterior wall and to the fundus. The fundus uteri above the uterine canal was thicker than the length of the canal itself, the latter being 6½ inches. On touching the posterior wall of the organ, and especially the fundus uteri, fluctuation was felt, and pus was suspected. On opening the uterine canal through its anterior wall, its calibre was found almost of normal size, and its length not reaching the middle of the tumor. Cutting through the posterior wall of the uterine cavity a large fibro-myoma was found situated in the lower part of the wall, and two small separate fibro-myomatous masses much higher. But these fibro-myomata constituted only one-fourth of the tumor, three parts of which presented the following remarkable transformation: a clear, slightly yellowish fluid, much resembling synovia, filling irregular spaces

formed by a material evidently undergoing the same metamorphosis. The microscopical examination showed that the solid tumor was a so-called myoma, or rather fibro-myoma of Virchow (generally improperly called fibroid or fibrous tumor). It consists of smooth (organic) muscular fibres, and connective tissue; consequently of the same histological elements as the normal structure of the uterus itself. The softened part of the tumor contained, besides the amorphous transparent fluid, the histological elements of the tumor in the different degrees of regressive metamorphosis. There was no pus, nor any other products of inflammation; it was simply the tumor itself undergoing liquefaction and absorption. I examined the fluid chemically, and found that it contained alkali, albuminates, and mucin. That this fluid has not existed in the tumor before the electrolytic treatment is proved by the examination of Dr. Sims. This experienced gynæcologist found the whole tumor exceedingly *hard* before the electrolysis, and quite soft and fluctuating after it,—just as we discovered it post-mortem.

The walls of the uterus are hypertrophied as in pregnancy, and its vessels larger and more numerous. The right Fallopian tube contained muco-purulent matter. The tumor was situated within the posterior wall and within the fundus, but was not protruding into the uterine cavity. It was, therefore, the variety which Sir James Simpson * calls the intramural, and Virchow † the intraparietal myoma. An intramural tumor of such a magnitude could only be removed together with the whole uterus, and no other surgical operation could have accomplished it. This case showed me for the first time anatomically what I have so often observed clinically during the electrolytic treatment of tumors. They can be felt becoming soft, elastic, fluctuating, diminishing in size until they entirely disappear. The same would have undoubtedly taken place with this myomatous tumor, had it been left to itself after the fourth electrolytic application, or even after the third; or had not the fatal peritonitis set in. This latter I am yet unable to explain. I have never observed inflammation to follow the electrolytic treatment; at least exact thermometrical observations have never shown an increased temperature after electrolysis. I do not even think that the unnecessary application to the mucous membrane of the uterus could have alone produced inflammation, because in strictures of the urethra I have repeatedly treated the mucous membrane electrolytically with happy results, and never produced inflammation. In the present case the peritonitis appeared only after the patient had exposed herself to a cold, and possibly some epidemic influence may be taken into consideration, as at the same time I have heard of several other women attacked with peritonitis. From the anatomical examination of this case I am convinced that intramural tumors of the uterus, inaccessible to a surgical operation except the dangerous removal of the whole organ, can be successfully treated by electrolysis.

THE DIAGNOSIS OF ABDOMINAL TUMORS.

Dr. Loomis, in view of the difficulty that not unfrequently occurs in making a correct differential diagnosis between solid and fluid tumors in the abdomen, thought that Dr. Sims might have been mistaken as to the true character of the growth in the first place; in other words, there was a possibility of its being fluid from the start.

Dr. Neftel replied that the patient was much emaciated, the tumor was large, and the abdominal walls were very thin; and the case, as a whole, presented no unusual difficulties to one who was not even an expert. Again, the change in the consistency of the growth took place in a very short time after the treatment by electrolysis commenced.

SYMPATHETIC OPHTHALMIA.

Dr. H. Knapp exhibited an eye which had been extirpated by Dr. Thomas Pooley for causing sympathetic ophthalmia in its fellow. The specimen presented a scar through the corneo-scleral juncture, in which the peripheral part of the iris was firmly caught. Iris, ciliary processes, and the whole choroid were saturated with lymphoid cells—the former uniformly, the choroid in circumscribed spaces. The ciliary muscle and retina were unaffected. Through the vitreous body were scattered lymphoid cells, and finely anastomosing stellate cells. The ciliary nerves running through the supra-choroid layer, between the scar and the posterior pole of the globe, were perfectly normal.

The specimen, therefore, illustrated the anatomical conditions of *exudative iridochoroiditis*. It is not possible to say whether this kind of inflammation, or the compression of the nerves of the iris in the contracting scar, induced the affection of the other eye.

FIBROID OF UTERUS, ETC.

Dr. Peugnet presented a uterus and annexa removed from a patient, with the following history:—

March 3*d*, 1863. Mrs. T., æt. 31. Married. Has had only one child, now 7 years of age. Suffering for several years past from severe dysmenorrhœa, with considerable disturbance of general health in consequence. Uterus in normal position; cervix rather elongated; Simpson's sound cannot be introduced more than an inch; a probe but little further; introducing finger in rectum and depressing uterus by means of a sound introduced in bladder conveys a feeling of a hard resisting nodule just behind cervix; diagnosis, a fibroid in posterior wall of uterus. Introduced a small sponge tent, which was removed next day.

March 7*th*. A larger sponge tent introduced.

March 23*d*. A third and good-sized one was introduced.

March 26*th*. The cervical canal sufficiently dilated to permit introduction of end of finger, when the fibroid could be distinctly felt just beyond os internum. Simpson's sound passed without difficulty to fundus; entered about three inches. Dysmenorrhœic symptoms very much diminished at next menstrual period, which occurred on the 30th of March. General health improved steadily, and no necessity for further treatment until

August 14*th*, 1867, the menstrual flow being excessive, the prostration therefrom necessitated the introduction of a tampon, which had to be renewed daily until the 1st of September. She remained in a very anæmic condition for some time afterward.

October 25*th*, 1869. Her husband came to the city with her, and requested me to accompany her to Dr. Thomas, whom she had been advised to consult. She had recently noticed a large lump on left side, accompanied with considerable tenderness, which had come on suddenly at menstrual period in August. Menstrual flow had been rather scanty for the few preceding periods. On examination we found a large tumor in left ilio-pubic region, which had produced right latero-version. Conjoined palpation between vaginal cul-de-sac and abdomen conveys a semi-fluctuating sensation. Finger in rectum a similar sensation. Tumor immovable. The posterior lip of uterus presents a peculiar elongated appearance; os externum dilated; the fibroid

* Sir James Simpson Obstetric Memoirs, Vol. I. p. 117.
† Virchow, Die krankhaften Geschwülste, Bd. III. p. 116.

could be distinctly seen in posterior wall. In order to explore uterus, the probe had to be flexed to about the section of a 4-inch circle; it was then passed to fundus without difficulty, the length of cavity being about 3 inches. The Doctor was unwilling to make a positive diagnosis, but thought that it was probably an hæmatocele produced by the regurgitation of menstrual flow through the Fallopian tube, owing to the obstruction by fibroid.

Oct. 25th. Saw her again with Dr. Thomas. She had menstruated as usual on the 1st instant. Tumor apparently about the same size; a slight increase of tenderness; complains of considerable pain across lower portion of abdomen; conjoined examination presents same result as previous one. The Doctor and I now concluded that it was a fibroid in which an inflammatory action was going on. Advised patient to let it alone.

Feb. 7th, 1870. Called to see the case in consultation with Dr. Sprague. The patient, after an interval of nine weeks, commenced menstruating freely on the 30th of January; the flow was increasing in quantity; pulse 98 and thready; advised the Doctor, if it did not diminish materially before morning, to apply tampon, in order to avoid a recurrence of a prostration similar to the one which occurred in August, 1867.

Feb. 10th. The flows till persisting. The Doctor having been called away, I removed tampon and applied another one, having previously applied persulphate of iron to cervix.

Feb. 12th. Hemorrhage still persisting; patient becoming more prostrated; on examination with speculum found cervix very much tumefied, blood flowing freely from cavity of uterus; threw in an injection of ½ of persulphate of iron to ½ of glycerine and starch ointment, by means of Lente's syringe; then applied tampon of cotton saturated with sol. carbolic acid in olive oil; patient taken with syncope immediately after, and did not rally for some time.

Feb. 6th, P.M. Pulse 124, hard; respiration 20; considerable tenderness in lower part of abdomen. Hypodermic injection of morphine to be repeated as often as necessary.

Feb. 15th, A.M. Has had complete suppression of urine for preceding 12 hours; taken with vomiting a black and offensive fluid; pulse 130; a peculiar odor emanates from body, but no discharge whatsoever.

Feb. 16th. Gradually sinking; unconscious since six P.M. last night; died at about noon.

The autopsy was made by Dr. Sprague. Few slight adhesions in upper portion of peritoneal cavity, and in the lower abdominal and pelvic cavities. Tumor in the ilio-pubic region, which apparently contained fluid and was adherent to the pelvic fascia; this was removed with the uterus and rectum, but broke as it was being conveyed home, discharging a large quantity of red-colored and intensely fetid fluid. There were evidences of metritis; a fibroid was distinctly seen in the posterior wall of the uterus, and was found to contain ten ounces of fluid, which, under the microscope, was made up mostly of blood corpuscles.

COMPLICATIONS OF RELAPSING FEVER.

Dr. C. C. Lee presented specimens illustrating some of the results of the more fatal complications of relapsing fever. They were taken from the body of a woman admitted to Charity Hospital on the 14th of February, in the seventh month of her ninth pregnancy. Her previous pregnancies presented no complications, and she was in good health at the time referred to, having entered the hospital for the sake of being confined. The obstetric ward undergoing repairs, she was placed temporarily in one of the medical wards. Shortly after there occurred three cases of relapsing fever in this apartment, and the patient took it. On the fourth day after the attack she aborted and gave birth to a feeble child, which lived only thirty-six hours. The placenta was expelled ten minutes after the child was born, and Dr. Williams, who examined the organ, thought it complete and entire, with the membranes. A considerable amount of blood having been lost, more nourishing food and an increase in the amount of tonics were necessary. She went on with very slight change for the worse until the fourth day succeeding, when she was seized during the preceding night with a well-marked chill, followed by lancinating pains in chest, increased frequency of respiration, and increased temperature. On examination of her chest pneumonia was discovered, limited to the upper and middle portions of right lung. The vomiting recurred coincidently with the pneumonia, and the patient's strength ran down very rapidly. The same treatment was continued, together with turpentine stupes and oil silk to the chest, and tr. aconite in three-drop doses every three hours, until the pulse was reduced from 156 to 130. Beyond that point it was not thought wise to push the remedy. The loss of blood which she sustained at her miscarriage, the inability to take food which was marked throughout, the recurrence of nausea and vomiting, all conspired to make the case an exceedingly grave one from the first, and the patient, in spite of the most careful treatment, slowly sank. The pneumonia spread until the whole right lung became solidified, the left remaining intact. No pleuritic complication showed itself until the second day before death. The highest run of temperature was 104, which was the day after the pneumonia made its appearance. The administration of the aconite did not affect the temperature a particle. The patient died on the twelfth day after the appearance of the pneumonia, the sixteenth day after the miscarriage, and the nineteenth after the first symptoms of relapsing fever.

The body was examined thirteen hours after death. All the abdominal organs were found healthy except the stomach, which was markedly congested, and the spleen, which was slightly enlarged. A mass was discovered in the upper portion of the cavity of the uterus near the fundus, which looked very much like retained placenta; but on careful microscopic examination by Dr. W. B. Lewis, proved to be a fibro-polypoid, which had doubtless existed before pregnancy began. The right lung was solidified, with the exception of a small portion of the anterior surface. Recent pleuritic effusion was noticeable in upper portion of same lung.

In regard to the specimen of the uterus, he thought it had a good deal of medico-legal value, because if such a growth were found on post-mortem examination in a case of supposed abortion, the suspicion of placental retention would be very strong. In view of its importance, he moved its reference to the committee on microscopy.

EXTENSIVE PERICARDITIS.

A second specimen by Dr. Lee showed very extensive pericarditis. It was taken from the body of a man sixty-eight years of age. He entered the medical wards of Charity Hospital on Saturday night last. He had pneumonia extending over the whole of the right lung, complicated with slight pleurisy. The latter increased very rapidly; and, being extremely exhausted by previous exposure, he rapidly sank, and died in the course of twenty-four hours. Death was the result partly of the pneumonic condition, partly of previous exposure, and partly of the weakened condition

of the heart; the pericardium being not only extensively adherent, but containing twelve ounces of fluid.

UTERINE FIBROID.

Dr. Cutter exhibited a uterine fibroid which he had enucleated that afternoon from a German lady thirty-five years of age, married, but childless. From the earliest period of her maidenhood she complained of painful menstruation. Dr. C. saw her about three months ago, at the request of Dr. ——. She had previously consulted Dr. Emmet, who diagnosticated a uterine tumor, the nature and precise situation of which he could not ascertain without dilating the os. Dr. C. introduced a sponge tent and found the tumor, but was unable to determine its character. Shortly after this she had one of her monthly periods, during which she bled very profusely. Just before he expected the next period the uterine canal was dilated, and when the catamenia made its appearance he applied persulphate of iron to the cervix, and introduced a cotton tampon. The result was most gratifying. In her subsequent periods the hemorrhage was inconsiderable, but she did not recover from the effects of the bleeding three months before until just before the operation.

The operation was commenced by introducing Nott's speculum. With the assistance of Drs. Krackowizer and Kammerer he incised the neck on either side and posteriorly, but was compelled to do the same to the anterior lip before he could remove the growth. It was detached by the finger, and found to spring from the anterior uterine wall. The patient was doing well at the time of the report.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, March 7, 1870.

Dr. George T. Elliot, President, in the Chair.

PROGNOSIS IN CHRONIC DISEASE OF THE HEART.

(Continued from page 69.)

Dr. Metcalfe remarked that Dr. Flint's paper had almost exhausted the subject (though by no means the audience), and left little to say except by way of assent and confirmation. But a matter of so great importance would justify some degree of iteration.

It was of the utmost consequence to secure accuracy in diagnosis; and too many of our statistics of the results of heart-diseases were rendered valueless from ignorance or carelessness in regard to this point. Most physicians in their early practice would be sure to fall into errors. He had himself, when he began teaching, been certain of a great many things which he was now convinced that he neither then knew nor had since acquired. A single examination was rarely sufficient to determine the morbid condition beyond a doubt. The patient must be seen under a great variety of circumstances; and care must be taken to eliminate such sources of error as, for instance, the spanæmia of pregnancy and lactation, or the three *isms* of which he used to speak to his class,—the nicotism, the rheumatism, and the onanism.

Supposing the diagnosis accurate, the consideration of idiosyncrasy should enter as an important element into the prognosis,—the fact that, with apparently the same lesion, one man might live forty years, and another die in as many days. That sudden death from heart-disease was very rare, he was fully convinced. It was the suddenness of a fatal event that patients were most in dread of; and if they could only be disabused of this idea, their disease would be disarmed of its chief terrors. Ten years ago he had come in charge of a patient whose former physician had diagnosticated extensive lesions of the heart, with atheroma of the aorta. The man was in a state of mortal apprehension; had given up his business; never left the house without an attendant to watch him; and then his wife would be in an agony of suspense till his return. The speaker had recognized the serious condition of the heart, and told the patient: "You have heart-disease, and I cannot say when you are likely to die; but you are not likely to die suddenly, and my advice is to dismiss your watchman, and go about your business." The patient had followed his counsel, was still at his business, and was getting along very comfortably, though of course nearer death than ten years ago.

Perhaps the most important of the complications affecting prognosis was renal disease. He knew a gay youth of some sixty summers who had contracted a cardiac affection from rheumatism forty years ago. But his kidneys were in excellent order, and his long-continued good condition was doubtless referable to the cause insisted upon by Dr. Flint,—the power of healthy blood to maintain healthy nutrition, despite considerable derangement of the central organ of circulation.

The Doctor related cases bearing upon the subject of angina pectoris, referred to in the paper. A lady whom he had found almost pulseless from this affection, ten years ago, was still alive and doing well. A man whose pulse had once fallen to thirty, and even to twenty-three in the minute, was likely to last a good while yet. A lady, seven years ago, received a blow on the head, which was followed by pneumonia. Her pulse went down to thirty. Mitral disease was diagnosticated; but she recovered, and last year had another attack of pneumonia, during which the pulse and respiration were each thirty. By April she was convalescent, and had since been very well. Two young ladies, in whose cases his diagnosis of heart-trouble was confirmed by Drs. Swett and Clark, had since married and borne children, and were in a state of health fairly enviable.

The President hoped that some gentleman would allude to the occasional disappearance of well-marked organic disease of the heart, and the possible clashing of diagnoses which might result. He thought the life-insurance tables, as a rule, bore too hard upon heart-disease.

Dr. Metcalfe replied that this consideration made yet more evident the necessity of repeated examinations. He could recall many cases where murmurs had existed and then disappeared for a long time, the autopsy finally showing organic lesion. As a life-insurance examiner he had made it a point, whenever there was anything wrong in the rhythm or sounds of the heart, never to be satisfied until he had interrogated them under many different conditions. But it was just as important to interrogate the kidneys. He had seen many patients examined for days and days to ascertain the state of the heart, when that of the kidneys was not at all investigated. Only this morning an insurance document had been shown him with the instruction: "*If the policy exceed twenty thousand dollars*, examine the state of the urine!"

Dr. Bibbins, speaking of calcification of the heart in the aged, said that for the fourteen years during which he had been physician to the Twentieth Street Asylum for Old Ladies,—none of them admitted under sixty years of age, and some of them living to ninety,—there had not been a single case where heart-disease had caused sudden death. Such patients died of dropsy or other more or less protracted illness.

Dr. Neftel closed the discussion, referring especially

to the effect upon the heart of disorder of the vaso-motor nerves, and to angina pectoris as produced by an abnormal condition of the cervical sympathetic.

The Society adjourned.

Medical Items and News.

The Woman's Medical College of the New York Infirmary held its first Commencement on the 2d inst., at the Hall of the Young Men's Christian Association. The President, Samuel Willetts, Esq., with a few appropriate remarks, conferred the degree of M.D. upon Miss Eliza B. Phelps, of Iowa, and certificates of having successfully passed their final examination upon Misses Celestia A. Loring, of Massachusetts, Ellen E. Mitchell, of Pennsylvania, Laura Morgan, of New York, and Emma C. Ward, of New Jersey,—who will not have completed the requisite three years' study until June next, when they are to receive their diplomas. The final examinations are conducted by a Board of eight Professors, selected from the Faculties of the College of Physicians and Surgeons, the University Medical College, and the Bellevue Hospital Medical College. Prof. McCready, in behalf of this Board, stated as its unanimous verdict, that the class had passed the severe examination most satisfactorily, and shown a proficiency decidedly beyond that of the average of the male candidates for graduation. Prof. Emily Blackwell, M.D., gave an address eminently clear and practical, exhorting the students not to allow their exclusion from medical societies and other opportunities open to male graduates, to cool their professional ardor or prevent their maintaining the true professional spirit. Remarks were made by Rev. Geo. H. Hepworth and Dr. I. I. Hayes; and the exercises closed with the Valedictory, well delivered by Miss Morgan. The Spring Course of this College opened on the 11th inst., to continue nine weeks.

The Order of Leopold Conferred.—The Knighthood of this Order has been conferred on Dr. Oppolzer, of Vienna.

The Health of Von Graefe.—This renowned oculist has returned from Italy to Berlin with improved health.

Successful Extirpation of One Kidney.—Simon, of Heidelberg, recently extirpated the *right kidney* from a woman with a urethral fistula and an injury of the right ureter. Prof. Wagner, of Königsberg, states that he examined the *cured* patient, and adds that the fistula had closed. For such affections as abscess, hydronephrosis, echinococcus, and renal calculi, Simon advocates extirpation of a kidney.

Anæsthesia.—Mr. Radu, of Guy's Hospital, mentions that in the Eye department not one case of anæsthesia proved fatal in 3,483, although among 3,224 chloroform cases, 45 became blue in the face and stertorous suddenly, with irregular breathing and pulse.

Venereal Disease in Cochin China.—In a report by Dr. Jules Grinelle, from the *Union Medicale*, on the Diseases of Cochin China, we find the following, which shows the great extent of this evil:

"Venereal affections form a large proportion of the diseases of Lower Cochin China, about one-fourth of the hospital or ambulance cases. Gonorrhœa is more obstinate and more likely to be complicated with orchitis, than in Europe. Buboes are very frequent, whether the result of gonorrhœa, or of sores having a tendency to phagedenic ulceration. It is therefore necessary to avoid having much loss of substance, and depressing cicatrices, to escape this. The writer was in the habit of using several times a day frictions of mercurial ointment into the gland; when the skin became thin and discolored, the lancet was introduced, and the interior brushed with a solution of equal parts tincture of iodine and water, and then bandaged neatly; this was repeated daily, and in ten or twelve days the parts healed. The seton used with the buboes gave some good results.

Phagedenic ulceration was even more likely to attack chancres than a bubo, especially sores on the frænum, on the outside of the prepuce, or on the dorsum of the penis, and so severely, that the entire organ or the greater part was compromised, and consecutive complications were frequent, but secondary syphilis rare. The syphilitic development is much more rapid than in Europe.

Why Coffee is a Stimulant.—We are indebted to M. Personne for an explanation why coffee is a stimulant. He says: The changes which heat effects in the elements contained in the green coffee berry have been little studied. We merely know, from the researches of MM. Baitron and Fremy on the one hand, and of M. Payen on the other, that the brown, bitter substance, and the aromatic principle, are produced by the decomposition of that part of the coffee bean which is soluble in water, and that a larger part of the caffeine disappears during the roasting. It is said that this caffeine is carried away with the volatile products generated in the operation. By roasting coffee in an apparatus which allows of the recovery of all the volatile products, he has ascertained that if caffeine be carried away with the volatile products, it can only be in such small quantity as is not appreciable by weight, and cannot explain the considerable loss which takes place during roasting carefully performed. The loss is experimentally found to equal nearly one-half of the caffeine originally existing in the coffee. He has succeeded in demonstrating that the lost caffeine has been transformed into a volatile base—methylamine, or methylammonia (C. H. N.), which was discovered by M. Wurtz.

Kings County Lunatic Asylum.—The asylum, as completed, has a frontage of 683 feet; linear measure, 1,105 feet. It will now accommodate 700 patients. 818 patients were under treatment during the past year. Of this number 286 were admitted, and 261 were discharged. One hundred and six of those discharged recovered. 80 were improved, 22 were unimproved, and 53 were removed by death. At the date of the Report—July 31st, 1869—there were 557 patients in the asylum. The supposed causes of insanity of patients admitted during the year are as follows: intemperance, in 37 cases; ill-health, in 34; puerperal, in 15; epilepsy, in 12; religious excitement, in 11; domestic troubles and business reverses, in 18 cases. Of the 286 admitted, 134 were males, and 152 were females; 198 were foreigners, and 88 were Americans. The medical officers of this institution are as follows: Edward R. Chapin, M.D., Resident Physician; John A. Mead, M.D., and Eli Warner, M.D., Assistant Physicians.

Trichina Spiralis First Named by Owen.—The celebrated zoologist, Owen, was one of the first to describe this worm, and in 1834 named it Trichina Spiralis.

Influence of Climate on Venereal Diseases.—The evolution of syphilis, according to M. Lagneau, would be less rapid in cold than in warm countries, at Christi-

ania than in France, in France than in the tropical regions. Gonorrhœa, very common in the United States, less so in China, would scarcely manifest itself among the natives of Algeria and the Levant, except those in contact with Europeans. Syphilitic maladies should be cured less readily in cold than in warm countries, and easily with the negroes. When two races come in contact in the same country, syphilis falls most severely on that which had previously been least subject to it. Individuals who contract syphilis in any country would find its effects to amend in a warmer climate, and to be aggravated in a colder one. Syphilis, though universally diffused, would seem unable to establish itself permanently in Iceland, situated almost under the polar circle. According to Livingstone, it would be spontaneously cured in the interior of Southern Africa.—*Jour. de Med. et de Chir. Prat.*

French Academy Prizes.—The Paris correspondent of the *Lancet* says: I append a list of the prize subjects which have been announced for the forthcoming years by the Academy of Sciences. For 1870: the Grand Prize in Physical Sciences—"History of the Genetic Phenomena which precede the development of the embryo in dioic animals in which reproduction takes place without coupling;" the Bordin Prize (3000 francs)—"The Comparative Anatomy of the Annelids." For 1871: Grand Prize in Physical Sciences (gold medal worth 3000 francs)—"Investigation of the Fecundation of Fungi;" Bordin Prize (3000 francs)—"Exhibit the differences and resemblances which exist among the organic productions of every species of the eastern parts of the continents of Africa, South America, and Australia, as well as the intermediary lands, and show the causes to which the differences may be assigned." For 1872: the Prix Serres (£300) will be given for the first time, the subject being "General Embryology, applied as far as possible to Physiology and Medicine."

As a general rule applying to all the *concours*, the Academy announces to competitors for the various prizes that the original essay will not be returned, and that all the works or manuscripts intended for competition must be sent in to the Academy on the 1st of June for each year at the latest.

Chloroform Narcosis.—Dr. Bilbroth, Prof. of Surgery at the Vienna University, has witnessed 12,500 cases of chloroform narcosis, and only 1 death.

Amputation under Chloral.—The *Gazette des Hôpitaux* gives the report of a case in which chloral was exhibited to the extent of producing perfect anæsthesia, under which amputation of the leg was performed by M. Noir. After the operation it was long before the patient recovered his sensibility, and the symptoms for seven hours were most alarming: coma, succeeded by delirium, vomiting, and prostration. It is hardly likely, therefore, that the new agent will be preferred to chloroform, from which the recovery is generally so rapid.

Ovariotomy in Paris.—M. Pean recently related to the Academy of Medicine at Paris that out of ten cases of ovariotomy performed by him, seven had lived. This is a great advance in French surgery.

Croup and Diphtheria.—Dr. George Johnson has come to the conclusion that two distinct diseases have been confounded under the name of croup by many English writers. 1. Acute catarrhal laryngitis or inflammatory croup. 2. Diphtheritic croup, which is always attended in children by more or less abundant and tenacious false membrane in the air-passages, which membrane is absent in inflammatory croup. The latter alone is contagious.—*Med. Press and Circular.*

New Treatment of Rickets.—Mr. Marsh, of Dublin, has employed forcible straightening of the bones in a case of rickets. The patient was put under chloroform, and the tibiæ, which were curved forwards, were forcibly straightened. The practice seems novel and promising.

Amputation at the Knee-Joint.—At a recent meeting of the Royal Medical and Chirurgical Society of London, Mr. Pollock, of Guy's Hospital, related eight cases of amputation at the knee-joint. He thought that on the whole this operation was less dangerous than amputation through the lower third of the thigh.

Hysterical Aphonia.—Dr. Tanner says that he never fails to cure this obstinate nervous disease by means of electro-magnetism. He places the patient in a chair, puts one handle of the instrument moistened into her hand, and with the other touches the tongue. The patient then screams out violently, and thus convinces herself and friends that she has *not* lost her voice.

Copaiba as a Diuretic.—The physicians to the Middlesex Hospital, London, are much in favor of copaiba as a diuretic. It is given in a mixture containing ten minims of copaiba, seven minims of liquor potassæ in a half-ounce of mucilage and caraway water. It seemed to succeed in Bright's disease when other diuretics have failed.

Post-Mortem Temperatures.—About the year 1760, when the study of thermometric readings became a practice in the medical world, De Haen, of Vienna, made the discovery of the singular and interesting fact that sometimes the temperature of the body may rise after death. The discovery, though clearly and definitely announced, was lost for nearly a century, when it was revived by Roger, and carefully followed up by Wunderlich. Quite recently, Adolph Valentin has put together all the most reliable information bearing upon the phenomena in question, and has shown that the occurrence of post-mortem heat is common to all dead bodies, the difference being only in degree. The phenomenon is observed in all cases where the development of the post-mortem temperature exceeds the simultaneous loss of heat by radiation or conduction from the body. Respecting its cause there have been many speculations, some attributing it to the solidification (rigidity) of the muscles, others to chemical changes of decomposition, and others, again, to continuance of so-called vital action after the motion of the heart has ceased.

Inflammatory and Pyretic Diseases. — Professor Bouillaud thus sums up his views on the differences between inflammatory and pyretic diseases:—

1. The excess of fibrin in the blood, in the purely inflammatory condition or process, which for a long time was named "inflammatory fever," proceeds from an *abnormal secretion* or *neoplasm* of the internal membrane of the blood apparatus. This neoplasm is similar to the one produced on the surface of an inflamed serous membrane, to the degree or according to the manner designated by Hunter an *adhesive inflammation.*

2. It is a portion of this neoplasm, or of this pseudo-membranous secretion, which deposits on the surface of the coagulum of blood obtained in the cases above stated—neo-membrane, to which the name of inflam-

matory clot has been given, and the chief constituent principle of which is fibrin.

3. Phlegmasia of the internal membrane of the circulatory apparatus, more or less generalized, and belonging to the so-called *adhesive* form, is one of the fundamental conditions of that production of fibrin in excess, and of the pseudo-membrane of the blood in so-called *inflammatory* fever.—*Lancet.*

TREATMENT OF HÆMORRHOIDS.—M. Richet has published, in *L'Union Médicale*, a clinical lecture "On Hæmorrhoids," in which he advises the use of forceps, brought to white heat, to cauterize piles in several sections. The Professor gives a history of the various modes of operating which have been proposed, but omits to mention Houston's nitric acid plan, and the manner of seizing hæmorrhoidal tumors with a clamp, cutting them off, and arresting hæmorrhage either with nitric acid or the actual cautery—an operation successfully practised by many British surgeons.

A FIRM CEMENT.—Glycerine and Litharge mixed into a paste, furnish an extremely firm cement for iron and stone, as well as fastening stone to iron. The material hardens very quickly, and must therefore be used at once. It is insoluble in water, and only attacked by concentrated acids. Articles joined with it can be used in a very few hours afterwards. Sandstone blocks, joined by this cement, have broken in a fresh fracture, rather than at the point of the union of the original surfaces.

DETECTION OF BLOOD STAINS.—Neumann has recently subjected the question of detection of blood stains to a rigid and exhaustive examination, and has published his results in a book. He recommends to moisten the blood stains with distilled water, and to heat to about 60 degrees Fah. on the glass side of the microscope. In this way microscopic pictures of human and animal blood are obtained of such dissimilarity that the former can readily be distinguished from that of any other animal.—*The Dental Register.*

PUNCTURE OF THE KNEE-JOINT IN THE TREATMENT OF SYNOVITIS.—Prof. Fayrer (*Indian Med. Gazette*), after treating five cases of synovitis, speaks with confidence of simple paracentesis of the joint in the treatment of inflammation, and as he believes it is capable of affording great and rapid relief from pain, as well as of expediting recovery, he has no hesitation in recommending it; but it must be borne in mind that the operation is to be performed with the greatest care, and that every precaution be taken to exclude the air.

THE MINERAL WATERS OF SARATOGA.—Dr. Frederic D. Lente, of Cold Spring, N. Y. (*N. Y. Med. Journal*), wishing to contradict the reports concerning the failure of the original "Congress Spring" of Saratoga, and the diminution of its gaseous constituent, etc., states that these stories are utterly devoid of foundation. The mineral waters taken from the "High Rock Congress Spring," and the "*New* Congress Spring," are often palmed off to the medical profession and the public in place of "*Old* Congress Spring" water; consequently, purchasers should be on their guard.

He remarks that an inordinate dose of Congress water, or a moderate dose at an inappropriate hour of the day, sometimes produces no cathartic effect at all, but, on the contrary, constipates, and induces *malaise;* whereas, a dose of a pint before breakfast, and aided by a slight amount of exercise, will produce, on the same patient, a pleasant and sufficiently cathartic effect.

DEATHS FROM CHLOROFORM.—Twenty-five cases of death from chloroform, gathered from foreign and home medical journals, have been recorded in the *Medical News and Library* during the past year.

THE PLAGUE VISITATION IN LONDON.—When London was visited by plague in 1665, 3,000 persons are said to have perished in one night, and by 1679, the mortality amounted to 100,000 from that source alone. Instead of twenty years, as formerly, the average duration of life now in London is thirty-seven years.

INFANT MORTALITY.—According to Dr. Mapother, in suckling, the average mortality is 37.1 per cent., while among the hand-fed it is 63.9 per cent.

OBSTETRICAL STATISTICS.—Dr. A. S. Todd, of Wheeling, Va. (Statistics of Wheeling), during a period of forty years' practice, has had 1,584 midwifery cases. Of these, 780 were males, and 794 females. Vertex presentations, 1,474; face, 3; arm and shoulder, 9; breech, 2; knee, 1. There were: 4 cases of placenta prævia; retained placenta, 16; hour-glass contractions, 5; twins, 16; double placenta, 11; single placenta, 5; still-born, 32; premature births, 85; anencephalous monsters, 5; club-foot, 2; mother's mark, 3.

TO PRESERVE LEECHES.—A jar filled with caragheen, over which fresh water is poured every day, is a valuable vehicle for the preservation of leeches.

TUBERCULOSIS.—At the Pathological Society of London, on February 1st, Dr. Weber brought forward some clinical facts to show that miliary tuberculosis frequently follows after the deposition of carious matter at a prior epoch. This view is certainly very interesting, and points to the necessity of endeavoring to cure diseased glands in scrofulous patients quickly. Dr. Sanderson exhibited several preparations from Dr. Chaveau of Lyons, showing tuberculous deposits in the mucous membranes of the intestines and bronchi in bovine animals, who had been fed on tuberculous matter. These, according to Dr. Sanderson, originate in the normal adenoid structure of the parts affected.—*Med. Press and Circular.*

SANITARY REFORM IN TURKEY.—A measure of great importance to every town in the Turkish empire has just been decreed. A Hygienic Council, attached to the Ministry of the Interior, has been created, with the function of improving the drainage, enforcing proper street scavengeing, and generally applying measures for the advancement of public cleanliness, both in the capital and throughout the provinces. Its further duty will be to improve existing civilian hospitals, and establish new ones where needed.

SWALLOWING OF A PIN.—Mr. Newstead relates the case of a child, aged eleven months, swallowing a pin. The pin passed through the intestines in three days. It was an inch and a half long, and the point was very sharp.

ANOINTING WITH OIL.—Dr. Knaggs, of Kentish Town, speaks highly of the value of smearing the whole surface of the body of children with olive oil every six or four hours, in cases of atrophy, bronchitis, convulsions, and diarrhœa. So that, after all, we are to have another trial of the old fashion of anointing the body of the sick.

OVARIOTOMY IN A GIRL OF TWELVE.—A professor at Nantes, M. Jonon, has successfully performed this operation. The diagnosis at first, as may be supposed, was difficult. The cyst was multilocular, and adhered in many places; but the patient made a good recovery.

OVARIOTOMY IN SWEDEN.—Ovariotomy has penetrated into Stockholm. Dr. Sköldberg has had 17 successful cases out of 20.

Iodide of Potassium in Periostitis.—Mr. Paget, in a clinical lecture at St. Bartholomew's, advises, in treating periostitis, repeated blisters. Iodide of potassium is useful, 1, in syphilitic periostitis; 2, less so in gouty periostitis; 3, less in scrofulous; 4, it has no power in chronic rheumatic arthritis.

Amputation of Penis.—Messrs. Francis and Grant, of Market Harborough, relate a case of an Irish laborer who snipped off his penis and one testis, when in a fit of delirium tremens, with a blunt rusty pair of scissors. —*Med. Press and Circular.*

A Gigantic Kidney.—Mr. Pearse, of Birmingham, reports that, in a *post-mortem* of a boy four years old, a kidney was found weighing 11 lbs. 4 oz. There was no normal renal tissue in it.

Ligation of the Femoral Artery in a Case of Elephantiasis Arabum.—Louis Bauer, M.D., M.R.C.S., of St. Louis, reports, in the *St. Louis Med. and Surg. Journal*, an aggravated case of elephantiasis arabum of six years' standing relieved by ligation of the femoral artery immediately below the profunda. More than 18 years have elapsed since the introduction of the ligature in elephantiasis arabum by Dr. Carnochan, and but 23 operations have been performed with a view to its relief. So far as statistics serve, more than 25 per cent. of the patients have derived permanent relief from the ligatures.

The Soft French Bougie.—Sir Henry Thompson gives most emphatic preference to the elastic instruments in the treatment of stricture, especially the very soft and pliant olive-tipped French bougies and catheters.

Acarus Sacchari.—Dr. Hassal, of London, found the *acarus sacchari*, which is akin to the *itch* insect, in sixty-nine out of seventy-two samples of raw sugar. Not a single specimen could be found in refined sugar.

Carbolic Acid Soap.—A pharmaceutist sends the following formula to the *Drug. Circ. and Chem. Gazette* for preparing the *Sapo Desinficiens phenylatus Hageri:* Take freshly prepared cocoa-nut oil soap, 150 parts, and fuse; then add a solution of—

Alcohol, 10 parts; carbolic acid, 6 parts; caustic potassa, 2 parts; oil of lemon, 1 part, and mix with stirring. To be poured into moulds.

How to Study the Hepatic Glands.—Dr. H. D. Schmidt, of New Orleans, La. (*The New Orleans Journal of Medicine*), affirms that it is indispensable, while studying the various forms of the "hepatic glands" and their ducts, that the specimens should be well injected with Prussian blue. In such preparations the epithelial cells can still be observed. Uninjected specimens should be resorted to for the examination of the structure. The locality which he usually prefers for the latter purpose is on the inferior surface of the liver, and between the larger branches of the hepatic duct. The glands are readily recognized by their yellowish pink color, by putting a fresh liver under water and carefully removing the peritoneum from that part. They are then dissected out under a magnifying glass of low power and placed on a glass slide. Being well covered with water, they are thoroughly freed from the surrounding fibrous tissue by means of fine curved needles; this is best accomplished on the dissecting stage under a magnifying power from 8 to 10 diameters, and by transmitted light.

While dissecting out these glands, it often happens that a small hepatic duct is cut, and small portions of its epithelium escape in the form of small round yellowish bodies. These must not be mistaken for the glands. The error may be detected by the difference existing between the epithelial cells, those of the hepatic duct being columnar.

The Discoverer of Vaccination.—The churchyard of the village of Worth, Dorsetshire, England, contains a memorial tablet with the following interesting inscription: "Benjamin Jesty, of Downshay; died April 16, 1816, aged 79. He was born at Yetminster, in this county, and was an upright, honest man, particularly noted for having been the first person known that introduced the cow-pox by inoculation, and who, for his great strength of mind, made the experiment from the cow on the wife and two sons in the year 1774."—*Med. and Surg. Reporter.*

Physical and Moral Transmissions from Parents to Children.—E. P. Le Prohon, M.D., of Portland, Me. (*The Jour. of Psychological Medicine*), publishes an extended paper on this subject, and concludes as follows: The best means to oppose hereditary transmissions consists in the interdiction of marriage between parties who inherit incurable maladies, and who will infallibly transmit them to their progeny. Families who desire to have their children married take the greatest care to conceal the incurable evils which they inherit, and they unite in marriage a scrofulous, leucorrhœic, nervopathic, hysterical daughter, to a young man who believes her to be perfectly sound. Would any young woman consent to marry a young man who is epileptic, impotent, or syphilitic, if she had a previous knowledge of his secret disease? In the same category are persons affected with deafness, partial blindness, hallucinations, latent insanity, furious passions, etc. To unite in marriage such individuals, and make a secret of their constitutional taint, is a monstrous piece of imposition, which requires a release from the civil contract of marriage. Marriages between parties where consanguinity exists should also be interdicted, because such unions produce bad fruit, besides increasing all the infirmities which already exist in families coming from the same source.

The only security in combating and preventing the germ of disease, is in matrimonial associations. A robust constitution united to one of a feeble temperament will make up, in a measure, the deficiencies of the latter, and the fruit derived from such a union will be found satisfactory in the first generation; and, if the matrimonial association is continued according to this rule, at the end of the second generation progeny will then be sound. Thus the union of a lymphatic temperament with a dry, bilious temperament seems to be the best accouplement to modify or destroy the scrofulous taint in one of the parties.

New Publications.

Books Received.

The Indigestions, etc. By Thomas King Chambers. 3d edition. H. C. Lea. Philadelphia. 1870.

The Preventive Obstacle, or Conjugal Onanism, etc. By L. F. E. Bergeret. Translated from the third French edition by P. De Marmon, M.D. Turner & Mignard. N. Y. 1870.

A Practical Treatise on the Diagnosis, Pathology, and Treatment of Diseases of the Heart. By Austin Flint, M.D., Professor of Practical Medicine, Bellevue Hospital. Second edition. Philadelphia: H. C. Lea. 1870.

Original Lectures.

ANTIPHLOGISTIC TREATMENT IN DISEASES OF CHILDREN.

REMARKS MADE BEFORE THE N. Y. MEDICAL JOURNAL ASSOCIATION, APRIL 15 AND 22, 1870.

By A. JACOBI, M.D.,

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Lecture I.

Mr. President:—I approach the subject announced for this evening with some hesitation, for I am aware that each of my hearers who has had any extended experience in practice, and has employed the facilities, here so abundantly afforded, for keeping up with the progress of medical knowledge, may be just as competent as myself to speak upon it, and may perhaps already anticipate nearly all that I shall have to say. Yet, at least to furnish a basis for profitable discussion, I shall first offer some preliminary remarks upon the pathology of inflammation and fever, and the causes of their frequent occurrence in early life, and then take up, one by one, several of the remedial agents known as antiphlogistic, principally the following: depletion, cold and warmth, salts; acids, vegetable and inorganic; digitalis, veratrum viride, aconite, quinine, ergot, opium, camphor, alcohol, iodine, mercury, and electricity.

INFLAMMATION AND FEVER.

The definition of inflammation has frequently been changed. It has been greatly dependent on the results of microscopical investigations, particularly those on the development, nature, and transformation of the cell. Schleiden and Schwann's discovery of the existence of the cell was at once made available for the theory of inflammation by Rokitansky. Goodsir and Redfern followed up both his investigations and his theory by their investigations on cartilage, and Virchow by his studies of embryology and the connective tissue. Since, Schultze, Brücke, Recklinghausen, by their labors on the physiological nature and also the pathology of the cell, Cohnheim and others by the discovery of its extensively migratory character, have changed the doctrine of inflammation to a certain extent. At all events we must admit one fact, viz., that for some time past the clinical theory of inflammation has been superseded by that gained from the anatomical points of view. Instead of symptoms, we studied and counted the finer structure. The increased life of the cell was the essentiality of inflammation. Then again, in opposition thereto, the inflamed part and its existing cell structure were considered of no account, but the emigration of colorless blood corpuscles rivalled all the former assertions and theories as an independent and all-powerful competitor. Of the old theories of inflammation nothing remained intact.

As long ago as 1846 (Philosoph. Mag., vol. 29, pp. 271, 398), Waller, when experimenting on the extended living tongue of the frog, came to the conclusion that pus corpuscles were identical with colorless blood-corpuscles, and that pus was not formed in and from blastema, as was always believed before, but that an actual perforation of the walls of blood-vessels was a frequent process. He says, "In consequence of the striking resemblance (between white blood corpuscles and pus corpuscles) observers have already supposed that the corpuscles of the blood give rise to those found in mucus and pus, and that these are simply corpuscles extravasated or filtered from the blood. An important observation has, moreover, corroborated this theory, namely, that of the accumulation of the corpuscles at the inner sides of vessels which are subjected to any prolonged irritation. On the other hand it has appeared to other physiologists so improbable to suppose the perforation of the capillary vessels by the corpuscles, that they have come to the conclusion that they are not derived from the blood, but, like semen or milk, are formed in the secreting surface, in virtue of some plastic power of the fluids which are effused upon it." From this quotation it is evident that Waller had given up and did no longer participate in the blastema theory, but in spite of his direct observations he and his theory were forgotten. The blastema theory was refuted, or at least thoroughly shaken, first by Goodsir and Redfern, then by Virchow. I have alluded to their investigations, made without regard to Waller, until Cohnheim, 1867, and Stricker and many followers revived the views of this observer.

Bowman, like Redfern, lays particular stress on the disorders of nutrition in the explanation of the inflammatory process. Thus, the discoloration of the cornea in inflammation is the result of increase in number of the cornea corpuscles. His facts and theory were not shaken, and had the field undivided, until Recklinghausen discovered the pus cell to be both contractile and migratory. Cohnheim succeeded in 1867 in fixing in an intact condition the corpuscles of the cornea by means of chloride of gold, and thereby found that they have nothing whatever to do with the formation of pus. In inflamed tissue nobody ever proved the divisibility of cells, but the permeability of uninjured blood-vessels became established.

The principal qualities of inflammation are, 1st, exudative, 2d, nutritive changes. The first was emphasized by Bennet and Rokitansky. With them, inflammation was completed with exudation, effusion, or extravasation. But it became known that tissue not endowed with blood-vessels showed the characteristic disorders of inflammation. The second got the ascendency by the observations of Goodsir, Redfern, and Virchow. Exudation was not positively dismissed, but the inflammatory process of blood-vessels was not considered as absolutely necessary. Virchow first insisted that connective tissue with its persistent cells was the only seat of inflammatory changes, and whatever was not connective tissue could but perish in that process. Remak and Buhl claimed, first, the same privileges for the epithelium cells, especially since Remak and Reichert had found the identity between epithelium and gland. Holm went still further, showing that liver cells would not only increase in number, but also get transformed into fibre. Virchow again, in contradiction to his own former theory, found that the muscular nuclei not belonging to connective tissue increased in the inflammatory process, and that the connective-tissue cells increase principally by augmentation of the nuclei inside. *His* concluded that new capillaries were formed from cornea cells; Leidesdorf and Stricker proved that capillaries may increase in number; and Eberle, Aeby, and Auerbach demonstrated that the walls of the very capillaries consist of nothing but epithelium, thus preparing for Cohnheim's discovery (preceded by Waller), according to which the white blood corpuscles pervade and perforate these walls of capillaries, which are composed of epithelium, by the thousand; and for his further theory that every deposit of pus is but emigrated white blood. There is, then, nothing exempt, it appears, from the liability of participating in the inflammatory process, except perhaps the nerve cells, which are not yet proved to participate in inflammatory new formation, although they are a very frequent seat of degeneration of the granular or fatty variety.

This theory of the formation of pus is very probably but one-sided. The formed elements of which pus consists, besides the fluid, which is identical with blood serum, are like white blood corpuscles, and are proven to come directly from the blood-vessels But there are other modes of formation of pus. Division of pus corpuscles, especially in profuse suppuration, is more than probable, for such a subdivision has been demonstrated in the epithelia, which are apt to increase, 1st, by direct division, 2d, by endogenous new formation, and in the connective-tissue corpuscles which, under those circumstances, also assume the character of pus.

After all, Virchow was right in stating the necessity, or rather the occurrence, of nutritive disorder in inflammation. But he was not complete, for surely there are emigrations of white blood corpuscles, without nutritive changes. Further, there are new formations which are not inflammatory, but still nutritive changes. Nor is the combination of *nutritive change* with *emigration of white blood corpuscles* sufficient for the definition of inflammation, but *exudation* is also required. Its importance is recognized by Virchow, but only so far as the presence, not so far as the process, of exudation is concerned. "It is not the action of the heart that drives it out, but the action of the elements of tissue that draws it out"

He found that hyperæmia is not always followed by inflammation, and thereupon he built his theory, and his defence of the necessity of a traumatic cause. But wherever there is inflammation there is always a disorder of circulation. Might not a traumatic influence change the motion of the fluid in the cells, as they are independently excitable? Certainly. But this excitation cannot be carried from cell to cell, especially not in connective-tissue cells, which are isolated from each other. The current of blood serum is important for the life and development of cells, as it acts in two ways,—first as a mechanical stimulant, and further as material of nutrition.

Thus in inflammation we require a number of conditions or constituents:—

1. Traumatic influence on blood-vessels—that is, especially, capillaries—by either changed action of the vaso-motor nerves or direct injuries to the walls.

2. Disorder of circulation. "Calor" and "rubor" of the old schools are not required, for cold-blooded animals exhibit neither.

3. Exudation of the fluid and formed elements of the blood.

4. Nutritive disorder, in growth of, and changes in, the cells. Persistent cells may be transformed into living changeable ones, which may undergo multiplication by subdivision and endogenous generation. This changeability, or "lability," is different in different organs; it is very slight, if at all existing, in horn and fully-developed connective tissue. It requires to be seen in future whether this latter can still be melted down, in spite of its complete organization. It is very probable, as I hope to show in the future. If it is, there is hope for trachoma, cirrhosis of lung and liver, tetanus, etc. The age of a tissue may also affect its stability. Some elements of the cornea may not be transformable after a certain time. Says Hirsch,* whom I gratefully quote for his lucid description of the theories of inflammation and fever, and to whom, therefore, I am under great obligation: "There are matrons who will bear no children, under no matter what influence or coercion."

5. New formation of homogeneous tissue. We shall see in future that this last one of the necessary constituents of inflammation is the peculiar characteristic of what is called chronic inflammation.

At this juncture I lay stress again, for its clinical importance, on the variety of constituents and the variety of causes of inflammation, simply pointing to the various modes in which an inflammation may show itself. It is but natural that it will differ according to individuality, age, condition, locality, or tissue. And these differences enforce the practice of individualizing in every given case. Thus the rules for the treatment of a certain inflammation, as known in our dictionaries and indices, must always be of a general character only. We have to deal, not with a Greek or Latin name, nor with a parasite that is to be expelled, but with the living tissue of a single individual, with its special dispositions, resources, idiosyncrasies, etc.

As the first amongst the constituents of inflammation we mentioned change in the walls of the blood-vessels. This may, as above said, be the result of direct injuries, or of changed function of the vaso-motor nerves. It is practical to speak in this connection of one of those symptoms of inflammation which are the most common subjects of clinical observation, and that one which, by itself, has a great influence on both the course of the disease and the indication for treatment. I mean fever.

We recognize fever by increased temperature. We are interested in observing the temperature of the local inflammation, and of the blood in general. We notice increased temperature in an inflamed part, but it never exceeds that of the blood, as measurements instituted in the vagina and rectum will invariably show in all cases in which the fever is due to a local cause. Besides, there are many fevers which have no local source, but a general cause. Therefore, the increase of metamorphosis of substance, which is the source of the increase of temperature, is not local at all.

What is its source, or cause, or seat?

I shall not dwell upon the physiology of the nervous system, as I do not mean to carry owls to Athens. I allude only to the fact that certain nerves have the function of being moderators, controllers, of the actions of certain organs. Thus the pneumogastric nerve moderates undue haste in the action of the heart. Irritation of that nerve renders the heart's action slow; paralysis, for instance, in consequence of section of the nerve, or of the proper lesion of the medulla oblongata, renders it uncontrollably rapid. Thus the splanchnic nerve is the moderator of the intestinal motion. Thus Setschenoff has found a moderating centre in the brain of frogs for their spinal reflex action; when this centre was destroyed, the reflex action was uncontrollable. It appears we shall have to fall back, to explain many symptoms of fever in general, on a moderating centre for metamorphosis of substance and the regulation of temperature, situated in the brain, which, when not altered, keeps them at their steady pace, when paralyzed, loses its reins. Thereby the muscles of the blood-vessels, thereby also the unstriped muscle of skin and glands, would be unchained; and dilatation of blood-vessels, profuse secretion from the intestine, colliquative diaphoresis, would ensue. This affection of the moderating centre need not be a primary affection; a secondary congestion, or irritation by a tumor, would suffice to give rise to all the symptoms. The fact of the enormous increase of temperature in so-called tubercular meningitis, when paralysis and death are imminent, shows to what extent the above theory is justified.

* *Dr. Theodor Hirsch*, The Development of the Doctrine and Treatment of Fever since the Commencement of this Century. Berlin, 1870, pp. 106. I would also direct to another author, to whose labors I am indebted in collecting much of the material laid before you this evening: *S. Stricker*, Researches in the Institute for Experimental Pathology in Vienna, in the Year 1869. I. Vienna, 1870. Pp. 110, and 4 plates.

Still, the local affection of this moderating centre, whether primary or secondary, is not the only source of fever. At least, we do know of general processes, in the blood or tissues, which give rise to very high fever without primarily affecting that centre. Thus we know that the presence of putrid material, or ferment, in the blood raises the temperature. Even substances formed in the very organism, when reabsorbed into the blood, will have the same effect. The detritus of a caseous gland produces violent fever, and is the cause of new formations in lungs and brain. Even large quantities of water or serum will act in the same manner when introduced into the system; or an abnormally large quantity of meat introduced into the stomach or blood will bring on increased temperature, lassitude, and muscular pain, by temporarily accumulating lactic acid and phosphate of potassa. Even the rapid absorption of normal elements of tissue after a venesection will produce, after the first fall, a rise in the temperature.

Thus it is not improbable that fever will result not only from an affection of the moderator in the brain, but also from independent changes in the blood. It cannot be denied, however, that the effect of distant causes of fever on the cerebral centre may be so rapid that the proximate cause of fever has always to be looked for in the brain.

No matter what the cause of the fever may be, the high temperature and increased waste of tissue are by no means indifferent. Those diseases in which there is but little waste or sufficient reproduction take a favorable course, for instance typhoid fever in infancy and childhood. In others, where the waste is greater, the danger increases. 0.667 per cent. is a fair average of the loss by fever per diem (1 per cent. in the crisis). As a loss of 40 per cent. of the weight of the body destroys life, according to Chossat, a fever of eight weeks would kill a patient. Complete inanition takes 1.5 per cent. of an animal's weight per diem; thus twenty-six days of inanition will destroy life, and inanition and fever combined will terminate a case in about twenty days. This, however, is not the only cause of suffering or death. High temperature alone will produce degeneration of tissue, with paralysis of brain or heart. But lately, Zenker has demonstrated changes in the voluntary muscles similar to fatty degeneration, which occur in typhoid fever, and depend exclusively on the high temperature of the blood. But the degree of temperature alone is not a good measure of the power of a disease or of the imminence of danger. It will depend on individual tendencies. It rises more easily and rapidly in the young. It may be apparently low, also, in proportion to the danger of disease; for evaporation may reduce the temperature as fast as it is generated. General perspiration in rheumatism, or when plenty of water is drunk, keeps the thermometer low; and it is the general experience of practitioners that the fossa axillaris must be well dried before the thermometer is applied.

The treatment of fevers has always been in accord with the scientific opinions of the times, or rather of the pathologists who made and upheld the opinions of their times. Thus *P. Frank*, in his "modus curandi, etc.," insists on removal of the causes. He considers the fever in the light of a wholesome reaction of the system. Where the powers of the system are simply suppressed, not lowered,—"vires suppressæ,"—he forbids roborants and stimulants. *Reil*, another great pathologist of the first part of this century, admitted that he had too little scientific knowledge of the nature of fever. As anti-febriles proper, he looked upon remedies that "blunted the increased irritability and thereby stopped the fever;" and empirically treated inflammatory fevers with antiphlogistics, typhus and typhoid with sedatives, paralytic conditions with stimulants. Amongst his antiphlogistics are cinchona, warm and cold baths (after the teaching of Currie, in 1797), and, already, camphor and opium. *Brown* relied on stimulants, Broussais and Bouillaud on powerful so-called antiphlogistics and venesection to exhaustion. *Schönlein* allowed himself to be guided by the prominent features of the case. In slight fevers he followed the expectant method; in acute inflammations used antiphlogistics; in increased irritability narcotics, in torpor roborants and excitants. *Traube*, another great Berlin pathologist of to-day, and the first who measured temperatures on a large scale, advises in inflammatory fevers, at the right time, small depletions, calomel, and digitalis: the proper time being a little previously to the expected crisis.

As early as 1854 *Virchow* published his views on the treatment of fevers. His indications are two,—the first to reduce the temperature, the second to moderate its source. The first is indirect and symptomatic; the second directly anti-febrile. The first indication is fulfilled by the proper diet, cold, depletion, salines, and acids; the second by digitalis, quinia, and arsenic. These latter are nervina, and act as excitants of different spheres of the nervous system. Stimulants may become indicated by symptoms of paralysis, tonics and roborants by imminent inanition. But less emphasis is laid on derivation to skin, bowels, and kidneys, with a view to bring on or aid a crisis. These principles of Virchow's are still valid at our times; being expressed in general terms and requiring application to and modification by individual forms of diseases, or cases. This much is sure, that they have given rise to a large number of fruitful researches concerning the effects of single remedial agents. Many of the direct means of treatment, however, we need not count among these, and they will not claim our immediate attention this evening. Thus, for instance, the incision of an abscess giving rise to fever, the washing out of the poisonous secretions of endometritis, the removal of a foreign body producing local and general irritation, will not be mentioned to-night, although each of them may be the prominent anti-febrile in an individual case.

THEIR FREQUENCY IN EARLY LIFE.

The fact of the great frequency of diseases in early age, and especially of inflammatory diseases, is too well known to require any further allusion. Both liability to disease and mortality grow less with every hour or day of the newly born and of the infant. And it is a remarkable fact that a number of organs are very rarely affected, and others very commonly the seat of lesion and abnormal function. This difference depends on the physiological function of the several organs. Diseases, that is, pathological processes, are principally found in such organs as are most active physiologically; while those which are at rest, or relatively so, are less liable to be changed in their anatomical condition and functional duties. This is so true, that amongst all the fœtal organs it is principally the heart which is apt to become diseased, it being the very organ which is more active than the rest; and of the several parts of the fœtal heart it is just the right side (it being more exempt from primary disease in the adult) which is oftentimes the locality of a change.

In the born infant such organs as perform no functions, or but limited ones, are seldom affected. The thymus gland exhibits more changes during uterine life than after birth, and particularly after the first year, at

which period it commences in earnest its downward march of atrophy. The sexual organs, too, show but few anomalies, simply because they are not called upon to perform any functional work, and because even their physiological development makes no unusual strides.

But almost all the other organs are liable to suffer from the first minute of life, in consequence of the altered conditions of existence and of functional work. Circulation is entirely changed; the lungs become, together with the heart, the centre of it. Thus it is that at no period of life do we see more pulmonary diseases than in infancy; thus it must be explained, also, which is a remarkable fact, that genuine lobar pneumonia, with rapid and extensive exudation, is a frequent occurrence in the very first months of extra-uterine life; while the usual form of pneumonia in infancy and childhood is the catarrhal variety. Further, the rapidity with which changes take place in important organs must also be explained by the very same fact of the sudden changes and new impulses in the distribution, and, I may say, assaults of the blood. Many cases of sudden death, sometimes unexplained, are the results of this physiological occurrence, which is augmented and exaggerated into pathological functions. I remind you only of the frequent occurrence of encephalitis in the very young, with fatty degeneration of the nerve cells, sometimes very extensive, sometimes but in small and circumscribed localities, but always sufficient, by both the direct destruction of the nervous centre and the collateral œdema, to subvert life more or less suddenly. It does not matter whether it is complicated or not with ulceration of the cornea, as described by Virchow and others, or with spasms or paralysis. I should further allude to the frequency of trismus and tetanus of the newly-born as in part depending on the sudden changes of circulation, which are so very apt to result in the peculiar hyperplastic degeneration of the spine in that affection. That such is the case is readily, besides other causes, proved by the excessive mortality from trismus in the infants of some parts of Northern Europe, where the newly born, in cold climates, in any sort of weather, are carried to the cold, dreary churches to get baptized. The frequency of conjunctivitis in the new-born may also be, in many cases, the partial consequence of the new impetus circulation has received after birth, and the insufficient resistance which the loose tissue of the conjunctiva offers to the dilatation of blood-vessels and consecutive effusion or exudation. Even hemorrhages occur more frequently in the young than in the old—the oftener, the nearer the first hour of life. Hemorrhages in the sclerotica, brain, and spine are not at all uncommon without the slightest appreciable presence of a proximate cause (as for instance hooping-cough, where extravasations are so frequently found). Paralyses depending on spinal extravasations, occurring during, or rather right after birth, are by no means rare or exceptional, not to speak of the numerous cases of so-called infantile paralysis. This form of paralysis—called, for want of a diagnosis, by some infantile, by others essential or dental—is certainly in most cases the result of spinal extravasation. Both its sudden appearance and its very rapid recovery up to a certain degree, and finally its absolute obstinacy, speak for this assertion. Let me further speak of the usual discoloration of the skin a few days after birth. I do not speak of the cases of genuine jaundice, depending on the changed relation between the biliary ducts and the blood-vessels of the liver,—the latter absorbing bile because part of their contents is cut off with the establishment of pulmonary circulation, by which process the liver is dethroned from its position as fœtal centre of circulation,—nor do I refer to the grave form of icterus depending on the pyæmic process. But I allude to the mild cases of so-called jaundice, which are but the change of color depending on the discoloration of the hæmatine deposited into and under the skin. It may be well compared with the change in color of subcutaneous or intra-cutaneous extravasations.

In my book on "Dentition and its Derangements, N. Y. 1862," I have drawn a picture of the rapid physiological changes taking place in the infantile head, and of its liability to consecutive pathological changes. Here I confine my remarks to a single allusion to that fact, because we have to become acquainted with the, I might say, physiological necessity of frequent congestive or inflammatory diseases of that portion of the body. Face, cranium, and brain grow rapidly; the fontanelles and sutures close; the brain grows in size and weight, the bones in thickness and shape, the teeth grow and protrude, the gums increase in thickness. The salivary glands develop in the third and fourth months, giving rise to copious secretion, which in the first commencement has neither the chemical character nor the physiological power of genuine saliva. The muciparous follicles, spread over the whole inside of the buccal cavity, with the exception of the gums, also grow in size and activity. These are the principal normal changes, and what do we see as the frequent exaggeration of this physiological state? Hyperæmia of the skull, even in non-rhachitical children, of the meninges and the brain substance, meningitis and encephalitis; congestive condition of the skin of face and head, erythema, eczema, and impetigo, usually with swelling, frequently with inflammation and suppuration of the numerous lymphatic glands of the neck; tumefaction of the salivary glands, inflammation of the gums, inflammation, erosion, and ulceration of the muciparous follicles of the mouth and all other forms of stomatitis and pharyngitis. Nor are the kidneys exempt. The rapid change in nutrition and elimination crowds a large amount of nitrogeneous substance into and through the kidneys. On and after the second day of life, down to the fourth week and later, we find in the pyramids of the kidneys orange-colored deposits of uric acid; these are so regularly found that their presence is of medico-legal importance; they are a frequent cause of urinary difficulties, and even of the formation of gravel and calculus in the young, the central portion of these stones being formed of uric acid, around which phosphates will accumulate afterwards.

Furthermore, the very circumstance that one or a few fœtal organs will be at rest, or relatively so, after birth, is a cause of physiological and sometimes pathological changes in the neighborhood. The thymus, as I have already stated, becomes stationary after birth, and soon begins to decrease. In proportion to its diminution in size neighboring organs will grow. For instance, the thyroid gland, weighing but a quarter or one-half of a drachm in the first year, weighs 2½ scruples in the second, a drachm in the third, 2½–3 drachms in the ninth year, an ounce or 1½ ounce at the age of twenty or thirty—a little more in the female than in the male. And I have no doubt that the fact that in cases of general malnutrition, and even without it, the bronchial glands are apt to be swelled; that in reality they are the first to be the seat of hyperplastic and particularly caseous degeneration, whenever such degeneration is found anywhere in the system, is partially due to the closing up of a range of circulation in the neighborhood. We have a right to conclude so from what we notice in the abdominal cavity. With the moment of birth the liver ceases to be the centre of circulation. From that moment it is supplied with less blood; from

that moment it diminishes in size; from that moment also begins the development of the intestinal follicles and the mesenteric glands, which are destined to play such an important part in the household of the organism. Thus it is proven that hyperæmia and its physiological and pathological sequelæ will result from the normal development; the frequency of congestive and inflammatory diseases is therefore no matter of astonishment.

As all of the gentlemen who have honored me with their presence are aware of every word I have had to say on my subject, I should not have deemed it necessary or prudent to allude to these facts; but I have thought I owed it to myself to show that I myself did not overlook their importance. Nor do I overlook the other factors which render infancy and childhood liable to inflammatory diseases. The time of weaning has arrived; I will surmise that the mother's or nurse's milk has worked no injury. Then comes the critical period. No sufficient development of salivary apparatus, teeth, or stomach; improper food, perhaps; gastric catarrh, intestinal catarrh, consecutive hyperæmia and enlargement of mesenteric glands. Either hyperplastic condition of their connective tissue and compression and atrophy of their glandular tissue and the ducts, and incurable marasmus; or caseous degeneration, enlargement, softening, absorption of the detritus, caseous lymphatic glands all over the system, caseous pneumonia, perhaps tuberculosis. Such is the list of ailments the connection between which is at present clear to everybody. They are just as many dangers to the infant's or child's existence, and the connection between them is so intimate that a slight deviation of a normal physiological function is sufficient to set the ball a-rolling.

Nor is this all; for with the increase of normal physiological action there will be other dangers. None of the diseases which are known to spread by contagion, by a ferment, are frequently seen in *very* young infants. The ferment is received into the system by the lungs; their function is but incompetent in the very young; sometimes their breathing is very shallow. Everybody knows how difficult it is, and almost impossible, to get a new-born or a very young infant under the influence of chloroform. Thus the ferment will not easily enter such lungs, and through them the blood. Thus it happens that scarlatina, measles, hooping-cough, etc., are not very frequent in the very young. With every month, however, the liability to them increases; and at the period at which the lungs get more developed, when circulation gets more powerful and more uniform, at the time when, with the closure of the fontanelles, in the beginning of the second year, and with commencing locomotion, and with active assimilation of more solid food, a certain power and equilibrium of circulation are obtained, all those diseases will increase in frequency, and as a rule in severity also. It is not at all uncommon that a baby, although taken with scarlatina in a family where the older children are seriously affected, escapes comparatively unharmed.

What I have said briefly, even fragmentarily, although I have tried to say it coherently, goes to show or explain the frequency of feverish, congestive, and inflammatory diseases in infancy and childhood. There is another anatomical fact or two which ought to be taken into account, viz.: the condition of the heart and of the muscular system. The muscles of the infant are feeble; thus the support given to the circulation of the adult by their elasticity and powerful contraction is wanting in infants. But the heart of the infant is much larger and heavier in proportion than that of the adult. The heart of the newly-born has a weight of from ten to thirteen drachms, that of the adult of about eight ounces. Thus the heart of the adult weighs but six times as much as that of the newborn, while the weights of the bodies are in the proportion of at least twenty to one. It is at once evident, although the feebleness of the muscles of the body is greatly counterbalanced by the weight and power of the heart-muscle, that the slightest disproportion between the two, the most minute change in any part of the system, is liable to seriously injure circulation and the economy at large.

Thus inflammatory diseases are very frequent in early age, and, moreover, their symptoms very urgent. The nervous and circulatory irritability is great at that period of life; the skin is thin, and liable to suffer from exposure or sudden changes of temperature; all the several organs, being but recently trained to their functions, and but gradually getting accustomed to fulfil them, exhibit less resistance to disorders or injuries. Constitutional diseases, especially of a fermentative character, are very frequent, and leave often behind them either local diseases or unusual impressibility of the whole system. In any given case, the consequences are more readily visible and injurious than in the adult; the pulse is readily influenced,—that is, the heart's action increased to over-exertion and the dangers of paralysis; temperature is very high, even in slight affections; and although it is true that in such it will sink as readily as rise, the changes which increased temperature will work, and the dangers it will carry with it, as described before, make the exact watching of the temperature in feverish and inflammatory diseases of infants and children a positive necessity. Diagnosis, prognosis, and treatment are equally interested in the measurements of the heat of the body. Thus, while I know I have to beg your pardon for the length and prolixity of these statements and remarks of a preliminary character, I feel to a certain extent justified in speaking not too briefly of those diseases the treatment of which was to form the subject of to-night's conversation.

(To be continued.)

CLINICAL LECTURES ON THE DIAGNOSIS AND TREATMENT OF

STRICTURE OF THE URETHRA.

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Lecture IV.

STRICTURES AT THE MEATUS URINARIUS, AND IN THE FOSSA NAVICULARIS.—THEIR NATURE, DIAGNOSIS, AND TREATMENT.

Gentlemen:—To-day we shall occupy ourselves with the study of stricture at the external orifice of the urethra, and of that portion included in the space occupied by the glans penis.

These strictures are congenital, traumatic, chancrous, or gonorrhœal in their origin.

In the congenital variety there are sometimes two narrow external orifices; a lower one, through which the urine flows, and an upper, terminating in a cul-de-sac, at a distance varying from half an inch to three or even four inches. Or there may be, just within the meatus, a crescentic valvular fold, a thin diaphragmatic membrane, else a mere narrowing of the outlet, which in that case is usually high upon the glans, just short of constituting epispadias. Or there may be slight

hypospadias, with a very narrow, nearly transverse slit at the base of the glans (Fig. 17).

Congenital phimosis and narrowing of the meatus urinarius are often associated; when there is a very small preputial orifice, circumcision should be done without delay, that the constriction at the meatus may be treated. Case 15 in Lecture III. is a good illustration of the coexistence of phimosis and congenital stricture.

These abnormities belong properly to the category of malformations, but clinically they may be considered as strictures, for they present similar symptoms and sequelæ, and have to be subjected to the same treatment.

The traumatic variety sometimes results from frequent and rude catheterism, wherein the meatus is repeatedly contused. In a case of the kind, observed by one of my colleagues, the external orifice was red, narrowed, indurated, and presented the appearance of malignant disease. The patient was an old man who had been in the habit of introducing a rough instrument several times a day, to relieve himself. As soon as he had learned to pass a properly constructed instrument, all the unpleasant symptoms disappeared. Generally, however, when these patients seek surgical aid, the tissues are found so altered as to demand more active interference. Another form of traumatism is amputation of the penis. This operation, when done in the usual way, is followed by a very narrow and troublesome constriction of the extremity of the urethra. I can remember several such cases treated in Bellevue Hospital, many years ago; one man in particular, who died from this cause after several years of the most intense suffering. The orifice would barely admit a small probe. The poor fellow spent most of his time in vain endeavors to relieve himself, and finally succumbed with cystitis pyelitis and disorganization of the kidneys. Such untoward results can be averted by cutting the cavernous about three quarters of an inch shorter than the spongy body, and making three rectangular flaps of the latter and stitching them to the skin around the stump, so as to make a rudimentary glans penis. Let me give you another very interesting example of traumatic stricture at the external orifice. About five years ago, my friend, Professor Van Buren, invited me to examine one of his patients—an adult—who for a long time had been suffering from dysuria. My attention was called to the extremity of the penis, which was abnormally flat, and to a narrow meatus. The patient had been circumcised in infancy; this had given a clue to the nature of the trouble, and the Doctor felt satisfied that a slice of the glans penis, including the meatus, had been cut at the time of the operation. The usual free division of the external orifice was made, with the most satisfactory result.

Those of chancrous origin invade not only the meatus, but often extend half an inch or even more in the fossa navicularis. Last autumn, a young gentleman consulted me for a chancroid of the meatus, which had extended nearly three-quarters of an inch in the urethra. It healed shortly after, and left a deeply depressed elliptical cicatrix, with an orifice capable of receiving but a No. 2 bougie. In November, 1868, John M., aged 27, came to seek relief from troublesome dysuria, solely dependent, as he thought, upon a phimosis, the consequence of chancre. He had had gonorrhœa ten years previously. None save No. $\frac{1}{2}$ gum bougie could be passed. Circumcision was performed to facilitate the diagnosis. After having slit open the prepuce, I found that about three-fourths of the glans penis had sloughed, and the meatus contracted to No. $\frac{1}{2}$ bougie. It was freely divided above and below, the redundant prepuce was excised and interrupted sutures applied. There were two strictures of gonorrhœal origin, $2\frac{1}{2}$ and $5\frac{1}{2}$ inches back; these were readily dilated to No. 16. Catheterism with No. 16 was continued one year. No recontraction.

On February 16th of this year, I showed you a man who had been suffering from dysuria and constant dribbling, due to a constriction at the meatus,—through which but a small probe could pass,—from a chancrous ulceration that had carried away nearly the whole glans penis. As soon as the stricture was divided these symptoms ceased, and when the wound had healed the passage was sufficiently free to receive No. 13 sound.

Stricture at either end of the fossa navicularis occurs much more frequently as a consequence of gonorrhœa than it does from the three causes before mentioned. It generally coexists with one or more constrictions in the deeper part of the canal. There may be narrowing of the orifice consecutive to inflammation of the whole glans, or to erosion of the lips of the meatus. In the fossa navicularis, the contractions often follow ulceration of the mucous membrane; they therefore belong to the class of cicatricial strictures, and are extremely dense, sensitive, and intractable.

All the varieties of constrictions at the meatus or in the fossa navicularis may escape attention for years, until the occurrence of some accident which may necessitate catheterism, when they are discovered by the surgeon.

Sometimes a small calculus is arrested behind the contracted external orifice, remains there for months or years, and attains very considerable proportions without being recognized by the patient. An interesting case of this kind was related to me last year by Dr. J. S. Davis, Professor of Anatomy, etc., in the University of Virginia. I shall give you a brief statement of it, extracted from a letter to Dr. Davis from the operator, Dr. J. B. Taylor:—On October 14th, 1864, Dr. Taylor received an urgent message to visit Mr. K., who was affected "with the gravel." He found the patient, a tall, emaciated man, thirty years old, in great agony; his penis was much swollen; the "glans," being as large as a man's fist, was red and sodden from the dribbling of urine. He declared that he had felt no pain nor known anything of his condition until the day before. His father, with whom he lived, knew nothing of it, except that he had had "the gravel" when a child. A calculus could be seen and felt through the meatus urinarius. Dr. Taylor applied lead water to the parts, and waited three days for the subsidence of inflammation; then slit the urethra, and with a pair of dressing forceps extracted the concretion, which was firmly embedded in the tissues. Much suffering followed the operation; on the next day the pain subsided, but the dribbling of urine continued. A silver catheter was then left in the urethra, and in a few days the wound healed. The Doctor carefully explored the urethra and bladder, but could find no other calculi. Dr. Davis, who has the calculus, writes me that it is phosphatic, and measures $4\frac{1}{16}$ inches in circumference.

If left to themselves these strictures will contract, and be followed by the same consequences as the deeper seated ones. Civiale, in his treatise on diseases of the genito-urinary organs, 1858, page 566, mentions three cases of narrow constrictions with urinary fistulæ, etc. In one there was rupture of the urethra, extravasation of urine behind the glans, and an abscess extending to the scrotum. In the second, rupture of the urethra had also occurred behind a stricture of the

fossa navicularis, then extravasation of urine, abscess, and, finally, several fistulous openings. The third case was a man 71 years old, whose meatus had been destroyed by a chancre: the glans was swollen, inflamed, and perforated by numerous small openings, which gave passage to the urine.

In October, 1868, I was called to a neighboring city, to see a man who had retention of urine. I found him moribund. Extravasation of urine had already taken place, the scrotum and perinæum being enormously swollen. At the external orifice there was a constriction, from chancre, through which but a small probe could be introduced. I divided the obstruction; there was another, anterior to the bulb, but I found no great difficulty in passing it with a No. 3 gum catheter. All this trouble had arisen from the stricture at the meatus, and the urethra had given way, under the pressure of the column of urine, at its weakest point, which was behind the deep-seated stricture.

Narrowing of the meatus is much more frequent than is generally supposed. An analysis, by Sir Henry Thompson, of 270 preparations, exhibiting 320 "distinct strictures," shows the proportion of constrictions near the outlet to be 17 per cent. of the entire number. In my own experience the proportion of strictures in that region to the entire number I have seen is much greater; it is at least 30 per cent.

There exists, in almost all of these cases, a localized chronic urethritis behind the stricture, which gives rise to some scalding in micturition and to a gleety discharge. There is also dysuria, proportionate to the degree of constriction; these symptoms, together with some reflex irritation at the neck of the bladder, lead the patients to consult their surgeons. Sometimes there are no evidences of disease, or they are so slight as to cause no apprehension. The trouble often escapes observation, on account of the defective methods of exploration employed by the majority of surgeons, or from entire want of exploration. The narrowest of the constrictions are generally situated at the external orifice, and there is no difficulty in distinguishing them. But those which are out of sight should be carefully examined after the manner described in Lecture I. When there is but a crescentic fold or a diaphragmatic membrane, a steel sound can readily be passed, no impediment is felt, and the surgeon dismisses the patient, saying there is nothing the matter. But the gleet continues, and the irritation at the vesical neck is still manifest. Therefore this mode of examination is of no value. The soft gum bulbous bougie is the best instrument for exploring the canal in its whole length, and you need never attempt the treatment of urethral diseases without having a complete set.

In the case of a crescentic fold or a thin membrane near the external orifice, the first catheterism may be sufficient to destroy either; the stricture is thereby divulsed, and a large sound introduced a few more times will be sufficient to effect a cure. But when there is narrowing of the orifice, or a well-formed stricture in the fossa navicularis, more energetic treatment is required. Here dilatation is not only unavailing, but gives intolerable pain, is followed by induration of the glans and greater subsequent contraction, and is sometimes attended with rigors and other constitutional symptoms. In its normal state, says Mr. Civiale, the meatus is the narrowest part of the urethra, and it is also the least extensible. It is not strange, then, that it should resist dilatation when diseased. Cauterization has been used with even worse results than dilatation. Divulsion is not to be thought of. Incision gives better results than any other known mode of treatment. This procedure was popularized by Mr. Civiale, who carried it out first, in 1823, to facilitate the passage of the lithotrite; and afterwards it became an established method of treating strictures in that portion of the urethra. The ancient lithotomists must, however, have resorted to it for the removal of calculi lodged in the fossa navicularis. Celsus gives directions how to make external urethral incisions for the removal of calculi embedded in the spongy portion, and doubtless encountered concretions in the fossa navicularis, and must have removed them by incision of the meatus. Some of the cotemporaries of Mr. Civiale seem at first to have made scarifications rather than incisions in strictures of the fossa navicularis and meatus, and used dilatation as after-treatment. They objected to Mr. Civiale's method because the uncontracted urethra, for a little distance behind the contraction, was divided; but Mr. Civiale claimed that this was necessary to insure success; and it now stands as a canon of urethral surgery, that not only the stricture, but from a quarter to half an inch of uncontracted tissue, in front and behind, should be included in the incision.

This operation can neither be called internal nor external urethrotomy. It partakes of the characters of both, for generally the meatus is divided, even if the constriction is in the middle of the fossa navicularis. It is done from within, but a portion of the cut is exposed to view. This, I think, is a sufficient reason why it should be treated of separately. It can be accomplished with a blunt or a sharp-pointed bistoury passed along the groove of a probe, or, as Mr. Civiale sometimes recommends, with a narrow, curved, sharp-pointed knife guarded by a small ball of wax, but he prefers to use the instrument (Fig. 15) already familiar to you, and

FIG. 15.

which, as you know, is similar to Frère Côme's "lithotome caché," reduced in size. I give you, in nearly Mr. Civiale's words, the description of the operation. The patient may be placed standing, sitting, or recumbent. The operator seizes the penis with the thumb and index of the left hand; with the right he introduces the urethrotome to the depth required, viz., about one-third of an inch beyond the stricture, opens the blade, and by a rapid traction cuts the stricture along the floor of the canal. He does not think it good practice to make very free incisions, as he fears that a fenestra behind the glans may result, but thinks it is better to be content with a moderate incision, which may be repeated in a few days. After such a procedure, he says, the diseased tissues may become softer and less resisting than they were at first, and cosenquently the second incision can often be dispensed with. I do not agree with Mr. Civiale in this respect, and prefer to make at once a free incision—just short of hypospadias—so as not to be obliged to employ the knife a second time, for the patient is very likely to object to it, even though the pain be very slight. The free division, if judiciously practised, will not generally be followed by any untoward result, and besides, it allows for the little contraction which occurs after cicatrization.

When the external orifice is too narrow to admit the urethrotome, I first make an incision with a small, straight, probe-like, beaked bistoury.

Rarely more than one incision is necessary, and that usually along the floor of the urethra.

Mr. Civiale quotes Dr. Payan as having, on several occasions, made two lateral incisions, and as proposing to add a second blade to the urethrotome in order to make two incisions at once, as in bilateral lithotomy. This plan answers well in cases of hypospadias, where the single inferior incision is impracticable. I have had occasion to adopt this practice in one instance. A young gentleman who had been suffering from a persistent gleet was also affected with a congenital hypospadias which had been increased in extent by a chancroid. His medical attendant had introduced instruments to No. 8, but with no benefit. The edge of the abnormal orifice was very thin and inflamed, and there was, at about one-eighth of an inch within, a stricture which had become very irritable. An inferior incision would only have made matters worse, so I made free lateral cuts, first on one side, then on the other, with Civiale's bistouri-caché, and was able to pass No. 18. The case terminated in every way satisfactorily, and there was no recontraction three years after.

Fig. 16.

Figure 16 is a diagram illustrative of the operation, with a double instrument, for stricture behind the thin edge of an abnormal external orifice.

Another exceptional case—requiring an incision along the upper instead of the lower wall—came under my observation last September. There was hypospadias, the orifice being at the base of the glans (Fig. 17 *c*), and admitting No. 7½ (English scale)

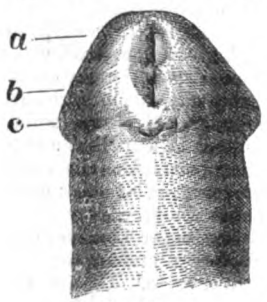

Fig. 17.

bulbous bougie, and another opening somewhat smaller (*b*), which was the mouth of a canal one inch in depth, along the upper wall of the urethra. There was a slit or depression (*a*) at the normal situation of the meatus. In this instance I passed a small bistoury, guided by a grooved probe, into the cul-de-sac and cut open the canal, so as to give it and the urethra a common outlet, and was able to pass No. 16 sound. The object of the operation was to facilitate the passage of large instruments to maintain the patency of a stricture, in the perineal region, which had been treated by external incision.

I have employed the various instruments indicated a moment ago, but prefer the bistouri-caché. As beginners may find this instrument too expensive, I have asked Messrs. Tiemann & Co. to make a cheaper one, which will answer the same purpose. This urethrotome may commend itself to you by its simplicity. It is shaped like an ordinary pair of surgical scissors, but has only one, outer, cutting edge, which is guarded by the other blunt blade when closed for introduction into the urethra. It is less than half the size of the bistouri-caché, and can be used with the same precision as Mr. Civiale's instrument.

The hemorrhage which follows this operation is generally inconsiderable, even when a very deep incision has been made. In a few cases it has recurred obstinately after each catheterism, for a week or ten days, but could readily be arrested by moderate lateral compression from without.

The operation is done so quickly that the patient seldom complains of much pain.

In two cases only have I encountered infiltration of urine (at the extremity of the prepuce),—Case I., Lecture I.; Case VI., Lecture III. When the frænum extends to the lower commissure of the lips of the meatus, make the incision a little to one side, or else divide the frænum from its attachment with a pair of scissors, and this trouble will surely be prevented.

The after-treatment is of the simplest kind. The retention of a catheter, long or short, should be avoided, though it has been recommended by high authorities. Professor Van Buren was in the habit of using a silver canula one-quarter of an inch in diameter, three inches in length, open at both ends, which was worn for forty-eight hours; but he was soon convinced of its uselessness, and gave it up several years ago.

Sir Henry Thompson advises the introduction of a plug of dry lint as large as a No. 12 instrument, this to be passed in one inch and replaced in a few hours by another, previously oiled. I found these plugs too irritating to be well borne, and discarded them long since. The introduction of a large-sized sound every third or fourth day for five or six weeks is generally all that is required.

As patients are often obliged to go and attend to their avocations immediately after the operation, I use a device, presently to be described, to prevent soiling of the garments. A very thin pledget of dry lint is introduced into the urethra as far as the cut extends, so as to prevent adhesion of the raw surfaces, and is retained by a strip of adhesive plaster one-third of an inch wide and about two and a half inches long, applied to the glans penis in the manner indicated (Figs. 18 and 19). The prepuce is then drawn forward and

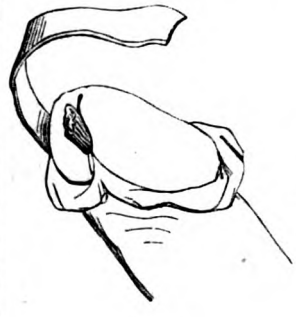

Fig. 18.

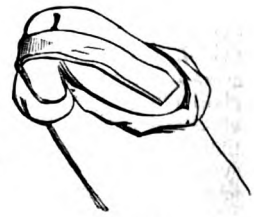

Fig. 19.

makes an excellent covering for the dressings. In this manner sufficient lateral compression is made to pre-

vent hemorrhage, and as it covers only half of the meatus, micturition is not interfered with. If it gets wet and loose, the patient can replace it by a fresh piece. The lint is changed at the end of twenty-four hours, and no dressing is required after two days, when granulations begin to sprout. The first time the patient urinates he complains much of scalding, but this subsides as soon as the urine is rendered bland and unirritating by the free use of diluents.

The object of the operation, in cases where the stricture is not narrow and gives no trouble, is to facilitate the passage of instruments for dilating deeper-seated constrictions. I have long been in the habit of dividing the meatus whenever a No. 12 sound could not be introduced without putting the parts upon a stretch and giving rise to pain. The operation causes less suffering than a sound which over-distends the orifice. I encountered seventeen cases of stricture at the meatus and in the fossa navicularis, which had to be incised, out of thirty-two cases of deep constrictions treated by divulsion; twelve out of fifteen cases treated by internal urethrotomy, and fifteen out of twenty-nine treated by the external perineal division. I am seldom able to carry ordinary dilatation of deep strictures of the urethra to the degree required without having previously divided the external orifice. Civiale has probably resorted to it more frequently than any one else; from 1823 to 1858 he had performed nearly three thousand operations with the best results.

Original Communications.

INCISED WOUND OF THE SUPERFICIAL FEMORAL—LIGATURE WITH SILVER WIRE.

DEATH ON THE TWENTY-SEVENTH DAY FROM DOUBLE PNEUMONIA AND VITAL EXHAUSTION.

By HENRY S. HEWIT, M.D.,

ONE OF THE SURGEONS TO CHARITY HOSPITAL.

On the morning of the 16th of April, 1869, I was summoned in haste to meet my friend Dr. J. W. Warner. Following the messenger with all possible speed, I found him sitting beside the prostrate, fainting, and exsanguinated figure of a young man, firmly compressing the femoral against the edge of the pelvis.

A small, but ominous and gaping wound, five inches below, directly over the track of the vessel, which was slowly filling and overflowing with purple blood, with occasional swifter impulse and crimson hue, as restless movement or relaxing muscle momentarily deranged the life-preserving pressure, revealed at a glance the nature of the surgical situation.

Diagnosis being obvious, brief consultation determined the operation, which I proceeded immediately to execute at Dr. Warner's request, with the additional assistance of Dr. L. P. G. Gouley, Physician to the Fever Hospital, Blackwell's Island, and Dr. James T. Synnott, now of the house staff of Bellevue Hospital.

Ether having been given, the wound was developed, the artery laid bare in the sheath, an irregular, oblique incision, one-third of an inch in length on its internal aspect, demonstrated, and silver ligatures applied, one above and one below the opening, twisted moderately tightly and cut off. The flow of blood, direct and recurrent, was effectually arrested, the external wound closed by silver sutures, lint wet in a weak solution of carbolic acid and diluted glycerine laid upon the line of coaptation, the limb swathed in cotton, and artificial heat supplied.

The pause succeeding these active and somewhat anxious proceedings gave an opportunity to elicit the following particulars:

The patient, German by birth, a Jew in religion and nationality, of sound constitution, correct habits, healthy and reputable parentage, aged nineteen, by occupation a butcher, while pursuing his vocation, on the morning in question, plunged his knife accidentally into and nearly through the inner portion of the right thigh.

The knife had been worn by repeated sharpening almost to a point, and the wound of the artery was probably inflicted by the heel of the blade, which retained its original width, in the act of withdrawal.

Copious hemorrhage followed, succeeded by complete syncope, and Dr. Warner arrived just as the swoon terminated, before bleeding to any great extent recommenced. The quantity lost was estimated by the father, also a butcher, and accustomed to slaughtering animals by the Jewish method, as not less than a gallon.

The condition immediately supervening upon the operation was one verging on collapse. Pallor and dampness of countenance, jactitation, feeble and gaseous pulse, coldness and numbness of affected extremity, precordial anxiety and distress.

Under the cautious and continuous use of stimulants and nutritives, reaction commenced and progressed in a tolerably satisfactory manner.

Warmth, circulation, and sensibility were restored to the thigh and leg in forty-eight hours, accompanied by considerable œdema.

The wound united by primary union for three-quarters of its extent. The lower and inner angle opened and discharged a moderate quantity of healthy pus. No secondary hemorrhage appeared, and the ligatures attached to the artery did not give any signs of irritation.

On the night of the seventh day, exposure to a draught of cold air was followed by a violent and prolonged chill, and immediately double pneumonia developed itself, together with excessive posterior congestion of the lungs.

The progress from this time was steadily and obstinately toward a fatal conclusion, but, owing to the medical skill and unceasing watchfulness of Dr. Warner, life was prolonged, with occasional hopeful glimpses of a happier event, for twenty days, when it expired with evidences of utter and complete exhaustion, coma, and apnœa.

It may, it would seem, be properly concluded from the foregoing details, that the original hemorrhage produced a shock from which it was impossible for the system to recover. The chill on the seventh day announced pneumonia, to which a high degree of hydrostatic congestion of the lungs, the result of the sudden anæmia following the excessive bleeding, predisposed them.

The metallic ligatures, twisted sufficiently tight to arrest the current of the blood without strangulating the coats of the vessel, amply sufficed for permanent occlusion.

The external wound, with the by no means unusual circumstance of suppuration and discharge through a portion of its extent, did well, and the limb was rapidly recovering its natural complexion, size, and appearance.

It is to be regretted that the scruples of the family and their haste for the interment, prevented an examination, and the preservation of what would undoubtedly have proved an instructive specimen.

129 East 29th Street, March, 1870.

Progress of Medical Science.

URIC ACID DIATHESIS AS A CAUSE OF BRIGHT'S DISEASE.—URIC ACID DEPOSITED IN THE KIDNEYS.—Dr. Gouverneur M. Smith exhibited to the N. Y. Acad. of Med., Jan. 6, 1870, an interesting morbid specimen, and spoke substantially as follows:—

In a paper read before this Academy in April last, I endeavored to illustrate the etiology of Bright's Disease by referring to 308 cases of the disorder as it has appeared in the New York Hospital.

I merely design this evening to revert to one or two points then alluded to, and to present a pathological specimen of unusual interest. Among other causes of Bright's Disease to which, on the occasion alluded to, attention was invited, were the *uric acid diathesis* and *saturnine impregnation*. A word on these topics, to show that minute foreign bodies, precipitated in the renal texture, may excite therein structural alteration.

Dr. Garrod some time since established the fact that in cases of *gout* urate of soda was deposited, not only about the joints, but also in the kidneys; as a sequel, for reasons hereafter to be mentioned, there was found the granular kidney. He further showed that workers in lead were peculiarly prone to the uric acid diathesis.

Olivier, in 1863, proved, by administering lead to dogs, rabbits, and guinea-pigs, that the metal itself would induce morbid action in the renal texture by becoming entangled in its meshes: to use his own words, as given by William Roberts, M.D., of Manchester, he could produce "incipient organic disease." His views were confirmed by the observation of cases of lead diseases coming under his treatment in the Charity Hospital, Paris, and were endorsed by Lancereaux and Danjoy. Several of the patients suffering with renal dropsy in the New York Hospital were workers in lead.

Lead may consequently induce Bright's Disease, either by its mere presence in the kidneys, or, by inducing the uric acid diathesis, may thus favor the formation of minute renal tophi.

During this winter term of service in the New York Hospital, two cases of gout came under my charge which were complicated with Bright's Disease. One case terminated fatally. The patient from whom this specimen was removed had suffered from gout about 16 years. The kidneys together weigh nine ounces, and are contracted and granular. The pyramidal portions are pretty thickly studded with small, hard granules, which are plainly visible to the naked eye.

I have exhibited this specimen to Dr. Clark, who was kind enough to examine microscopically the contained foreign bodies, and he pronounced them formed of uric acid. Chemical tests confirmed this opinion.

Dickinson, in his admirable monograph on albuminuria, in speaking of gout, remarks: "Dr. Garrod has pointed out, and I can confirm, that there occurs a deposition of urate of soda between the tubes, connected, that is, with the intertubular fibrous tissue of the gland. This portion of the organ becomes thickened by a sort of chronic inflammation; it contracts and compresses the tubes, and the granular kidney results. This description holds good, whether the gouty condition has resulted from intemperance, from the absorption of lead, or from any other circumstance."

It will be observed that, in the specimen which is exhibited, *uric acid*, and not urate of soda was discovered; possibly the salt may have been present in parts of the kidney not examined. An additional fact, it would appear, is thus established, viz., that uric acid, *per se*, may become fixed in the renal texture, and induce the same organic lesion as either metallic lead or the material ordinarily composing tophaceous deposits.

While uric acid, as has been stated by Roberts, "constitutes probably five-sixths of all renal concretions, and of vesical calculi, which have only recently descended from the kidney," I have not met with any statement that it has been found deposited in the nephritic parenchyma.

LEADEN COLOR OF THE TONGUE IN MALARIA.—For several years past, the peculiar color of the tongue in malarious fevers has attracted the attention of Charles O. Curtman, M.D., Prof. of Chem. in the Missouri Med. College. From a large number of cases carefully observed, with a view to ascertain the value of the appearance of the organ as a diagnostic sign in malaria, he has been led to publish in the *St. Louis Med. and Surg. Journal* the following deductions:—

In malarious affections the color of the dorsum of the tongue, as far back as the circumvallate papillæ, is of a bluish-gray tinge, somewhat resembling that of old sheet zinc or lead. It occurs in various degrees of intensity, giving the impression of a covering of greater or less thickness superimposed upon the epithelial surface, sometimes quite thin and transparent, at other times more opaque. Sometimes it has the appearance of being seen through a viscid mucous superstratum, at other times it is quite dry, but when present always has the peculiar leaden hue. It is not due to anæmic conditions, nor does it present exactly the same coloration as the tongue does in anæmia. No change of color has been detected in the same individual during the process of an intermittent fever through its different stages; but he has observed the same appearance in the cold, the hot, and the sweating stages, and could not see any alteration in it during the intermission. The color may be observed in equal intensity in the feeble, emaciated patient who takes an ague during the period of convalescence from exhausting disease. In some cases, however, though malarious fever was undoubtedly present, this color over the dorsum of the tongue could not be observed, but only around the edges and tips; but in those cases there was an opaque coating of the tongue, of a brownish-yellow or dirty white color, such as is usually denominated bilious. This presented the appearance of being superimposed upon the leaden covering, which it did not entirely overspread, but permitted to be seen at the tip and edges. This appearance was frequent in the remittent type. Not a single case has been thus far observed by him in which the tongue retained the clean, natural surface of perfect health. The leaden color disappears completely shortly after the entire cessation of the malarious symptoms, and serves as a valuable index of the perfect restoration to health. In several cases the leaden tongue has been observed without any concomitant symptoms which could fully establish the presence of malarious disorder, excepting a general malaise and lassitude, which so often are the prodromata of intermittent or remittent fevers. Dr. C. considers himself justified in predicting an attack of fever with some degree of certainty from the presence of the leaden tongue alone.

CHLORATE OF POTASH AND OPIUM IN THREATENED ABORTION.—The following case of threatened abortion averted by chlorate of potash and opium, published by Dr. John W. Trader, Sedalia, Mo., in the *Boston Med. and Surg. Journal*, may be of interest to the profession, in establishing the theory advanced by Sir James Y. Simpson, of oxygenizing the blood in those cases where an anæmic condition exists.

This patient had been married some six or eight years, and had miscarried at least once each year of her married life, at about the sixth month. In her last pregnancy she was anæmic and completely prostrate. The least exercise, and in fact the erect position, would often bring on uterine contractions, and sometimes hemorrhage. The chlorate of potash, in combination with opium, produced the happiest effects. Some few doses of iron were given, and some other incidental medication was resorted to, such as cathartics, citrate of magnesia, etc., but nothing which seemed to have the controlling influence of the chlorate. He used an aqueous solution of about the following strength:—

℞ Potas. chlorat. ʒ ij.
Elix. opii ..... ℥ ss.
Aquæ pur .... ʒ iv. M.

Sig.: Teaspoonful every three or four hours, as required. The opium alone was tried without the desired effect. She was compelled to keep her bed the most of the time, but at the end of nine months she was delivered of a full-grown, healthy child. Four months have elapsed and both are doing well.

On the Temperature of Children in Phthisis and Tuberculosis.—The diagnosis of consumption and tubercles in children is often very difficult. Every one knows how often they have been found on dissection, although not suspected during life. Children waste often with cough, and yet have no tubercles; and, on the other hand, they have tubercles often and do not waste, nor exhibit any chest symptoms. Sputa is uncommon in young children, and they do not have hæmoptysis. Percussion discloses little in many cases, because the tubercles are disseminated, and harshness is common to all childish breathing. Bronchophony, too, is not a sign to be trusted in children. Tubercular disease may be elucidated in children, Dr. Ringer thinks, by the use of the thermometer.

Wunderlich says the temperature in acute miliary tuberculosis conducts itself as follows:—

(*a*) At first, like the temperature in a catarrhal fever; later on, like an intense hectic fever.

(*b*) Just as in abdominal typhus.

(*c*) As intermittent fever.

Dr. Ringer seems to believe that there is a "continued elevation of temperature in *all* cases of tuberculosis. If the thermometer be used in the axilla it should be left in 20 minutes, according to our author. He takes the temperature in the rectum in most cases, and he introduces it two seconds, leaving it in from five to seven minutes. According to Dr. Finlayson, the value of the thermometer in the diagnosis of phthisis and tuberculosis in children is, that it gauges the fever. The importance of evening febricula as a sign of tuberculosis has long been known. Wunderlich says that phthisis without tubercles cannot be distinguished from tubercular phthisis by the thermometer.

Experiments on the Employment of Strychnine as an Antidote to Chloral.—M. Liebreich took three rabbits. With the first he injected two grammes of chloral beneath the skin of the back; with the second he injected fifteen grammes of strychnia; and with the third he injected two grammes of chloral, and the moment it commenced to show its effects, injected fifteen grammes of strychnine.

The first rabbit soon fell into a state of collapse; but the cornea appeared to remain sensitive, for irritation of it was followed by contraction of the lids. Death ensued in an hour and a half.

In the second rabbit, eight minutes after the injection the strongest tetanic spasms supervened, and death followed in twelve minutes.

The third rabbit, into which had been injected the same dose of strychnia which was fatal to No. 2, came to himself after a brief interval, from the injection of a similar dose of chloral as had been fatal to No. 1. He experienced no tetanic spasm, and at the end of an hour and a half got up, ran about, and ate as if nothing had happened.

Thus is established the strange fact that strychnine is an antidote to chloral, but *not vice versâ*. In fact, the rapidity of action of the latter agent produces poisoning before the chloral has time to act.

Ice in Chloroform Accidents.—Dr. Baillie, Surgeon to the Calcutta Native Hospital (*Med. News and Library*), is convinced that in cases of syncope from inhalation of too large a quantity of chloroform, there is no means upon which he should more rely to restore the movements of respiration, than the introduction of a *good-sized lump* of ice into the rectum.

This is much more easily effected than one would suppose; a little pressure with the ice being made over the sphincter causes it to relax, and the ice slips in, followed almost instantaneously by a prolonged inspiration, the precursor of natural breathing, and restoration of the heart's action. This measure, with only a *small* bit of ice, would, doubtless, answer equally well with still-born children.

On the Use of Electricity in Obstetrics.—Dr. de St. Germain, Surgeon to the Lying-in Hospital, has recently been conducting a series of experiments with electricity, as an obstetric agent, and he thus sums up the results in a communication brought forward at the Imperial Society of Surgery:—

1. We have not been able in any one case to produce uterine contractions, when they had not already appeared of their own accord.

2. Whenever labor had commenced, and the contractions were succeeding each other at intervals of from fifteen to twenty minutes, the application of electricity to the lateral walls of the abdomen produced a considerable amelioration of the uterine contractions after the lapse of only ten minutes.

3. We have also stated that each contraction excited by electricity was much longer and more painful than the others.

4. The dilatation of the cervix seemed to progress constantly with rapidity under the influence of galvanic excitement.

5. In all the cases the expulsion of the placenta immediately followed that of the child.

6. In two instances only we observed a slightly bluish hue on the skin of the child; but this might be attributed to cyanosis.

Dysmenorrhœa Membranacea.—Dr. F. Mandl, of Vienna (*Am. Jour. of Obstetrics*), believes the prognosis is generally unfavorable in *dysmenorrhœa membranacea*, not only with regard to conception, but also to its cure. The uncertainty and failure of our present treatment depend partially on the entirely unknown pathogenesis of the malady.

Chronic Inversion of the Uterus.—Prof. T. Gaillard Thomas, M.D. (*Am. Jour. of Obstetrics*), publishes "The History of Four Cases of Chronic Inversion of the Uterus," with the treatment employed. In a case presenting itself for the first time for treatment, he would use belladonna and the warm douche for a week, and then for another week, he would employ pressure by means of a caoutchouc bag filled with air and water. After this taxis, for a period not exceeding one or two hours, once, or at most twice a week, if the fundus were returned within the os, by closure of this after Em-

met's method. Having failed with these measures, *and not before*, he would resort to abdominal section. Instead of using a dilator of two limbs, he would employ one of four.

VIGILANCE TREATED WITH CHLORAL.—D. F. Lincoln, M.D., Boston (*Boston Med. and Surg. Journal*), recommends the hydrate of chloral (Markoe's) in cases of nervous prostration, the result of over-fatigue and anxiety, attended with sleeplessness. Given in 15 gr. doses on retiring at night, a full night's rest of seven or eight hours is insured, without any unpleasant results of any sort.

TREATMENT OF JAUNDICE.—Drs. White and Rochester, of the Buffalo Med. Association (*Buffalo Med. and Surg. Journal*), both agree that jaundice is caused by an obstruction to the free flow of bile into the intestine, and that this obstruction is most frequently produced by inflammation of the mucous membrane of the duodenum. The *former* sees no good reason for giving mercury. The alkalies are sufficient. He believes that the less we give cathartics the better. Counter-irritation over the region of the duodenum is beneficial. The *latter* gentleman uses calomel not as cholagogue but as a sedative, and finds the relative action of the drug to be induced, sometimes by small, and sometimes by large doses.

OPIUM A REMEDY IN RATTLESNAKE-BITE.—R. T. Short, M.D., reports a case of rattlesnake-bite in the *Medical Archives*, which was cured by frequent doses of opium. The patient was a lad of seventeen years, who had been bitten by an average sized prairie rattlesnake. Not having any *specific* for snake-bite he was compelled to rely on opium. Sixteen two-grain doses were given. The pulse, when patient was first seen, was 20 and very feeble. When the opium was discontinued, the pulse was 85. One remarkable feature in the case was, that the opium at no time exerted its characteristic soporific influence—perspiration was excited both times. The question naturally arises, does some principle in the opium prove antidotal to snake poison, or does it act by fortifying and replenishing the nervous system until the poison has spent itself?

INFLUENCE OF SECTION OF THE PNEUMOGASTRIC NERVES ON RESPIRATION.—Herr Voit of Munich (*The Quarterly Jour. of Science*), recently experimented on the effect of cutting the pneumogastrics on respiration. For the first few hours after section the amount of carbonic acid exhaled is the same as that before, then it diminishes. At a later period, when the tissue of the lung has begun to undergo a change, the quantity of carbonic acid diminishes rapidly, and that of oxygen is increased.

THE CHLORIDE OF POTASSIUM AS A SUBSTITUTE FOR THE BROMIDE.—The well-known physiological observations which have caused the action of the bromide to be attributed to the potassium, induced Dr. Sanders to inquire into the effects of the other combinations in the treatment of epilepsy. The chloride was found to have the same effect as the bromide, and thus far no case has been observed in which, the chloride having proved inefficient, the bromide afterwards had any more effect. No disagreeable secondary effects have been observed. It has been found that smaller doses of the chloride will suffice, in order to administer the same quantity of potassium, than when the bromide is employed.—*St. Louis Med. and Surg. Journal.*

SIMPLE PROCESS FOR DETECTING STRYCHNIA.—The *American Journal of Pharmacy* gives a process for this purpose, proposed by a Prussian chemist. It consists in saturating the suspected substance with ammonia, and allowing it to dry spontaneously; then heating it with a little amylic alcohol, after which adding a few drops of this liquid to sulphuric acid and bichromate of potash, when, if strychnia be present in the substance, the well-known coloration characteristic of that alkaloid will be obtained.

DYSTOCIA CAUSED BY HYPERTROPHY OF THE INFERIOR SEGMENT OF THE WOMB.—M. Bailly (Paris letter to the *Richmond and Louisville Medical Journal*) met with a case of this kind in a primipara, aged twenty, who presented nothing unusual until the time of delivery, when it was found that the lower segment of the womb was perfectly hard and thick. Pains set in, but at the end of the third day the os was only dilated to the size of a half dollar. Her general condition permitting no further delay, two incisions were made in the os, but forceps could not be applied, and craniotomy alone would allow the extraction of the child. Twenty-seven hours after the patient died, and the autopsy revealed peritonitis, with a quantity of pus and false membrane. Microscopic examination showed fatty degeneration of the muscular fibres and hypertrophy of the fibrous tissue.

PRESERVING VACCINE VIRUS.—Dr. A. W. Sueck has used the method of Dr. D. Prince for preserving vaccine virus. It is as follows: take a portion of common alum and place it upon a red hot stove until the water of crystallization is driven off. Of this dried alum fill half full a bottle of an ounce capacity. Envelop the vaccine seal in a piece of paper and tinfoil, and place it over the alum in the vial. Adapt a well-fitting cork, and cut off even with the top of the bottle. Seal air-tight with sealing wax.—*Chicago Medical Journal.*

HEART-CLOTS.—Joseph Jones, M.D., Professor of Chemistry in the Medical department University of Louisiana, New Orleans (clinical memoranda), in a valuable lecture on "Heart-Clots," states that the formation of heart-clots during life is very common in malarial fever. In fifteen post-mortem examinations he found them in ten cases; of the remaining five, one was a case of typhoid fever combined with remittent fever; another was a case of malarial fever of long standing, where the patient died of exhaustion; and in the remaining three no special examination for heart-clots was instituted.

In view of the rapid, feeble, intermittent pulse; disturbed, full, panting respiration; rapid, feeble, fluttering action of the heart; cold extremities, exhaustion of the muscular forces, stupor, wandering of the intellect, inability to control the muscles and acts of excretion; in view of the sudden onset of all these symptoms in malarial fever; in view of the size and structure of the coagula found in the heart and blood-vessels after death, in the cases presenting these symptoms; in view of the close correspondence of these symptoms with those characteristic of the deposition of fibrin in the heart and blood-vessels; in view of the observations of various physiologists and pathologists, we are justified in asserting that the fibrinous element of the blood may be deposited in the heart and blood-vessels during life in malarial fever, and not only give rise to a distinct set of phenomena, but cause death in cases which otherwise would not have terminated fatally.

THE IDENTITY OF THE EFFECTS OF JENNERIAN AND ANIMAL VIRUS.—M. Herard (The *Chicago Med. Journal*) has made a comparative study of animal and Jennerian (human) vaccination, in 493 new-born infants, and has been unable to detect any difference whatever between the effects of the two varieties of virus.

THE MEDICAL RECORD.

A Semi-Monthly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE RELATIONS OF PHYSICIANS AND APOTHECARIES TO EACH OTHER.

A GREAT deal has been said regarding the relations which should properly exist between apothecaries and physicians, and as we believe that a great deal more discussion must be had before the mutual rights can be consistently adjusted, we take a favorable opportunity for glancing cursorily at both sides of the general question. Viewing, however, the whole matter in a properly conservative spirit, we are forced to conclude that the wrong-doing is not altogether on one side; that one profession is perhaps as much to blame as the other. The lack of a disposition to acknowledge this has tended, in our opinion, more to widen the breach than perhaps anything else, and has caused real sound argument to degenerate into angry dispute. Both callings have their individual rights, which each in its turn is bound in a truly consistent spirit to respect. The profession of medicine must recollect that that of true pharmacy has, especially within the past few years, risen to a respectability and influence that have been commensurate with the increased requirements of science,—in a word, that there are a greater number of thoroughly educated pharmaceutists in our midst than ever before. This being the case, it becomes us to vote them a fitting amount of respect and consideration, and to counsel with them rather than abuse them.

We are convinced that the only way of bringing about a proper understanding between the two bodies is a disposition on the part of each not only to acknowledge the possession of individual rights, but to respect them in a practical manner.

In the first place, then, the pharmaceutist who adheres to his calling proper has a right to look to the physician for a reasonable pecuniary support. He is presumed to desire only such aid as his relations to the physician entitle him to, beyond which, as an honorable man, he does not care to go. His highest and truest vocation is that of a compounder of medicines, a practical chemist, and not a mere vender of drugs. But the question as to whether he can live by strictly confining himself to this particular branch is not a very difficult one to answer by the majority of such as have striven to do so. His prescription business, although remunerative enough as far as it goes, is not, in the main, sufficient to cover his necessary expenses and leave him a profit. If the profession of medicine maintain that the apothecary should not seek to make money outside, they should take the question seriously to themselves as to how this is to be prevented; and further, if it is in their power to aid him in his endeavor, it is to the interest of both that it should be done. It is certainly just that the physician at least place no obstacle in the way of its attempted attainment. If the pharmaceutist desires to restrict his business entirely to the compounding of prescriptions, the physician is bound to do all in his power to encourage him—he should, as a matter of principle, leave such part of the business entirely in the former's hands. But is this always done? We are forced to answer in the negative. Very many practitioners are prone to think that they are not bound by any obligations to the skilled compounder, and consequently hardly ever hesitate to prepare and sell their own medicines to the patient for whom they may be prescribing. This may be proper enough in thinly settled rural districts, where no apothecary is near at hand; but when the opposite state of things exists, we hold that it is radically wrong. The physician is no more by right a compounder of drugs than is the compounder a physician; and it must be conceded that each can operate to the best advantage, and do the greatest good to his patrons, by restricting his labors to his own legitimate sphere. This general principle of action is considered of so much importance that an amendment to the code of ethics of the American Medical Association, on the duties of physicians to each other, and to the profession at large, is proposed, in order that these requirements may be properly understood and practically met.

"The spirit of trade and of gain from merchandise should by all means be dissociated from the practice of a liberal profession, and it is important that practitioners should not allow their pecuniary interests to compromise their duties to their patients. Therefore, in cities and other communities where the services of competent apothecaries can conveniently be obtained, physicians should resign to them the whole business and profits of dispensing medicines."

The said amendment lies over until the coming meeting of the Association, and we cannot see what objections can be urged against its adoption. In our opinion this will be a decision against the proprietary right of physicians for drug stores, and compel them to choose between pharmaceutist proper and physician. If it can be proved that pharmaceutists are unable to gain a respectable livelihood by the prescription business alone, or by the manufacture of chemicals and pharmaceutical preparations, there can be no objections against the selling of perfumery and articles of toilet. In fact, we can see no impediment to the practice in any

event, as there is no tendency thereby to degrade either the profession of pharmacy or of medicine. When, however, there is a willingness to sell patent medicines, both callings are disgraced. We cannot conceive of any reasonable excuse for such a practice, sanctioned though it be by almost universal countenance. The profession of medicine, on its own behalf, has a right to object to this custom, and it is just that this objection should be respected, in so far that those who persist in the practice should not complain if they be denied the usual prescription business.

Again:—The most pernicious practice of prescribing from behind the drug counter should be entirely abolished. Any one who does not frequent the apothecaries' stores, and who is only in the way of hearing one side of the question, may well be astonished to learn of the great prevalence of this imposition. The establishments in which there is an exception to the rule can be numbered only by scores. We admit that there is a great temptation to do it, offered by the community itself; that the otherwise conscientious apothecary is coaxed to "give something," and many inducements held out to him by his patron; but this is no reason why he should yield and do what he knows to be wrong, not only to the would-be patient, but to the physician, whom the said patient would otherwise probably consult. These knights of the pestle do not pretend to take any responsibility, and yet appear to assume as much as the skilled and qualified prescriber. We have known these pretenders to ignore entirely the presence of a physician, and in the most insultingly defiant manner advise the patient as if they had an unquestioned right so to do. This is certainly not the way to foster a good feeling between apothecaries and physicians. We will take occasion here to introduce an extract from a letter, which we select from a file of similar ones, in order to give some of our readers, who may not be well informed on the subject, an idea of the amount of discretion and ability which many of these prescribers possess:—

"I am convinced, from personal experience, that this practice (prescribing) of our city druggists is very much on the increase, and that for some unexplained reason they at the same time enjoy the patronage of the most extensive and influential practitioners in the neighborhood. As for the advice that the poor patient gets from the druggist it is *nil*, and as to medicine it will be given in unlimited quantities as long as it is paid for. I have chanced to be in the stores of some of the prescribing druggists, and have known them, especially in cases of supposed venereal diseases, be satisfied with the assertion that the patient had the 'syphilis, or gonorrhœa,' never ask a question, or make a remark (except perhaps a joke as to the origin of the disease), nor care to look at the case, but at once make up a mixture, for which two or three dollars is charged, and a day appointed for another interview. On one such occasion, the druggist, not knowing that I was a physician, after the patient left, was asked by me, with a show of curiosity, what the man complained of? The answer was, 'The pox, I suppose.' In answer to the question as to what had been done for him, the reply was, 'I gave him some sarsaparilla and copaiba to drink, and "black wash" as a lotion.' 'Do you think that will cure him?' asked I. 'Well, it may, and it may not,' replied he; 'and if it does not, he can go to a doctor. There is certainly no harm in trying to do something for the fellow first.'"

This may be an exceptional case, but if it is, we are cognizant of some that will equal it in ignorance, presumption, and dishonor.

The proprietorship of prescriptions has, in its turn, given rise to a good deal of discussion, not to say hard feeling, but our readers know enough of this to render it unnecessary for us to present the different aspects of the question in its relation to the rights of apothecaries on the one hand, or those of physicians on the other.

In the present state of affairs, although the physicians are not by any means faultless in their many relations to the pharmaceutists, it must be admitted that it is much easier for the former to submit to the reciprocal code than the latter, especially in this matter of prescribing, to which innovation the profession, as a body, cannot and must not submit. We cannot, however, doubt that the rapid increase of their number will, before long, enable the "good men and true" in the ranks of pharmacy to rule out, by force of example, many of the objectionable practices of their brethren, when they will find that physicians will be only too ready and willing to do their share in the great work of mutual reform.

An excellent suggestion is made by an English druggist in relation to the dispensing of poisonous substances. He proposes that, in addition to the word "poison," the labels should have printed on their margins the appropriate antidotes for each class of poisons. A bottle containing a mineral acid, for instance, would have on its label:

"POISON!

"If taken by accident, give (mixed with water) chalk, or soap, or whiting, or ceiling-scrapings."

Similar labels might be printed for the various classes of deadly drugs.

Hydrophobia.—Dr. Buisson recommends one of the most simple remedies, being at the same time preventive and curative. He says, when a person is bitten by a mad dog he should take seven steam baths, one each day, Russian, for instance, of fifty-seven to sixty-three degrees. When the disease makes its appearance only one steam bath is necessary, raising the temperature hastily to 50 degrees centigrade, and afterwards slowly to 63 degrees. The patient should be well confined to his room until completely cured. He says he cured himself by these means, and more than eighty persons besides.

Nélaton.—M. Nélaton, we regret to hear, is said to suffer from heart disease, and will relinquish practice.

Reviews and Notices of Books.

I. Fourteenth Annual Report of the Trustees of the State Lunatic Hospital at Northampton, Mass. October, 1869, 1870.

We learn from this very complete report of Dr. Earle, that the past has been a year of great prosperity and improvement in the institution under his charge. Five hundred and ninety patients have been treated during the year—254 male, and 336 female—of whom 49 have recovered, 51 improved, 63 unimproved, and 25 died—total 188; daily average number of patients, 405. This hospital is the last erected by the State for the insane, and has always, hitherto, been the receptacle for many of the chronic incurable cases from the other two similar hospitals in the Commonwealth. Hence the relatively smaller number of recoveries.

We are pleased to observe the high importance always attached to *moral treatment* by Dr. Earle, especially out-door exercise, which, as he truly states, "modifies the action of both the intellectual and moral part of our being." He places "manual labor" at the head of all remedial agencies for the cure of insanity, and in no other year do the statistical records of this hospital show so large a number of the patients employed in work as in that just come to a close. In all the departments of labor the majority of the workers are State patients, although many of the town patients and boarders are also employed, as a matter of choice by the inmates. A detailed description is given of the "Exercises and Entertainments, Reading, Recreation, and Amusements, the Farm," and its products, together with other interesting matters, all going to show that there is no Insane Hospital in the United States more skilfully and successfully managed than that of Northampton.

II. Triennial Report of the Superintendent of the Tennessee Hospital for the Insane for 1869. By W. P. Jones, M.D.

The whole number of patients treated in this institution during the last two years has been 514; of whom 220 have been discharged, and 294 remain; 100 have been cured, 48 improved, 10 unimproved, and 42 have died. We regret to see it recommended by the Board of Trustees to erect another asylum of equal size on the present hospital grounds; inasmuch as *segregation*, not *aggregation*, is the true policy, as recognized by nearly all writers on insanity at the present day; and moreover there is already too little farming land attached to the present hospital for the wants of the patients.

The superintendent very wisely recommends a judicious system of religious worship in hospitals for the insane, as exerting a very beneficial influence on the minds of the patients. Separate hospital accommodation is recommended for the criminal insane, and in 1865 a separate building was furnished by the State for the accommodation of the colored lunatics. We regret to observe that, owing to an injury received from one of his patients, while in the discharge of his duty, Dr. Jones has felt obliged to resign his situation as superintendent, which he has filled with great honor and usefulness for over seven years past.

III. Annual Report of the Managers and Superintendent of the Western Pennsylvania Hospital for 1869. Pittsburg, 1870.

This flourishing institution is located at Dixmont, near Pittsburg, Pa., and under the superintendence of Dr. Joseph A. Reed, with Dr. J. B. Ewing as assistant physician. Four hundred and ninety-six patients have been treated during the year; deaths, 39; 46 restored, 42 improved, 32 unimproved. At present there are 334 patients in the hospital—195 males, 139 females. With only 200 sleeping apartments, the hospital has evidently been overcrowded during the year, and has probably only been saved from serious deterioration of health among the inmates, and an excessive mortality, by thorough ventilation by "*the fan.*" Of the patients admitted during the year a large proportion have been *chronic cases*, which could have been as comfortably provided for, and at a tithe of the present expense, in smaller and cheaper buildings, on the *cottage system;* and yet, as Dr. Reed remarks, "it is this large and often neglected class that have taken possession of the hospitals of the State." Over $9,000 worth of farm products were raised during the year 1869, which speaks well for the industry and labor of the patients.

IV. Report of the Pennsylvania Hospital for the Insane for the Year 1869. By Thomas S. Kirkbride, M.D., Superintendent, &c.

This institution stands second to none in our country for the skill and success with which it is conducted, and the scientific attainments of its accomplished head. So distinguished and popular is Dr. Kirkbride in the management of the insane, and so humane and kind is his deportment towards this unfortunate class, that every year an increased number of patients voluntarily resort to him for treatment; especially those whose minds have been liberally cultivated, but whose faculties have not yet been so much perverted as to render them unconscious of mental disorder; while they are sensible of its threatened dangers, and fully alive to the importance of early treatment. We have known several such individuals, who have been fully restored after a short residence in the Pennsylvania Hospital, and who speak with enthusiasm of the many pleasant features of their domicile there, and the benefits they have received from the hands of its enlightened and humane superintendent.

The great advantages of an extended classification, and of separate buildings for the two sexes, have never been more satisfactorily exhibited than in this model institution. For example, there are sixteen separate classes of patients for each sex, which gives opportunity to bring into association only those who will be most likely to be beneficial, rather than injurious, to each other; and this really is the basis of all rational treatment. But it is an advantage enjoyed in very few of our insane hospitals; and so injurious are the effects of indiscriminate agglomeration of all kinds of cases, that it is with extreme reluctance that many persons consent to send their friends to a lunatic asylum; and especially is it a powerful argument for separate institutions for the recent acute cases, and those of a chronic character.

Were all our asylums placed on the footing of the Pennsylvania Hospital for the Insane, and managed with equal judgment and skill, there would be little foundation left for those changes and reforms which have recently been advocated and recommended.

This hospital was opened in 1841, since which time 5,535 patients have been received, and 5,222 discharged, leaving 313 under treatment. The greatest number of admissions have been between the ages of 25 and 30; the next between 20 and 25; and next, 35 and 40; 10 have been admitted over 80, and 33 between 75 and 80; 79 between 70 and 75; 102 between 65 and 70; 196 between 60 and 65. Of professions, 377 have been farmers, 287 merchants, 244 clerks, 59 physicians, 59

lawyers, 32 clergymen, 91 shoemakers, 401 no occupation. Dr. Kirkbride very truly remarks that "the public should learn that it is not only humanity and practical Christianity for the State to make suitable provision for all the insane that require hospital accommodations, but that there is real economy in such a course; for even if patients were treated at the highest rate of board for a few weeks or months, and cured, it must be much less costly than would be a life support of the incurable, and of those, perhaps, dependent on him, on the lowest scale of subsistence, to say nothing of adding to the wealth of the State by changing what was only a consumer into an active producer."

This is very true, but the difficulty in the case is, that the States are unable, even if willing, to provide for all their insane (1 to 700 of the population) on the magnificent footing of the Pennsylvania Hospital, costing originally $2,000 per patient, and $7 to $8 per week for board.

The problem now undergoing discussion, and which is about to be tested by the State of Illinois, is whether the vast majority of the insane—the quiet, chronic cases—cannot be comfortably provided and cared for on a more economical plan, which, while it furnishes the advantages of domestic home-life, in plain, inexpensive dwellings, with necessary superintendence, will also supply all needful facilities for regulated labor, so essential to the bodily and mental welfare of the insane.

V. Biennial Report of the Superintendent of the Insane Asylum of California. 1869. By G. A. Shurtleff, M.D., Superintendent.

This is the 17th annual report of this Institution. It is under the charge of two physicians only. It numbers 920 patients, and the whole number treated in 1869 is 1,335; deaths, 159; ratio of recoveries, 46 per cent.; and of deaths about 12 per cent. The chronic and incurable cases never leave the asylum during life. The vast majority of the cases are such as are usually found in county houses and jails. *Consumption* has been the most frequent cause of death; next in order, *marasmus, paralysis, debility, epilepsy*, etc. The institution is shamefully overcrowded, a heterogeneous assemblage of idiots, *epileptics, imbeciles, criminal insane*, etc.

The insane, it is known, increase at the rate of 10 per cent., and yet California has made no provision for any further accommodation for this class for nearly 20 years, and its only hospital has gone on increasing its inmates at the rate of 60 or 70 every year, although always overcrowded even from its establishment.

To relieve this overcrowding, the superintendent states that a *cheap cottage wooden* block of buildings has been erected during the past year, capable of accommodating 135 patients, and he thinks "*these light detached tenements are more agreeable to most patients than the wards of our ordinary high massive asylum buildings. They feel less secluded from the world; they like to be near the earth; they do not feel so far removed from liberty, as one would feel less oppressed, confined in an ordinary domestic apartment than he would in a tower.*" "The plan answers every purpose for the accommodation of the milder and non-destructive cases" (which make up the vast majority), and "room can at any time be thus furnished at the rate of less than 100 dollars to the patient, whereas the rule is $1,000 to the patient for the expense of constructing complete separate establishments for the insane" (p. 25). And yet, although Dr. S. admits that the quiet and harmless chronic cases require less room, and fewer attendants, and less medical attention, than the violent and destructive acute cases, and that buildings suiting them far better can be erected at *one-tenth* of the cost of the large asylums, still he is opposed to any change in the present system, and very inconsistently argues that the chronic cases can be as economically treated "in a complete institution for all, as in one for a particular class." In regard to "humanity," which seems to be a great obstacle to any change or improvement in the mind of the superintendent, after admitting that the "cottage *block*" is far better liked by the patients than the "massive asylum building," and far more congenial to their feelings, we think what is said on this point somewhat superfluous. In all insane asylums the noisy, violent cases are separated as far as possible from the quiet, chronic cases; if they were to be removed a little farther still we do not suppose any great harm would come from it.

Reports of Societies.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Adjourned Stated Meeting, March 21, 1870.

Dr. George T. Elliot, President, in the Chair.

REPRODUCTION OF BONE.

Dr. Wm. R. Whitehead read a paper upon this subject. Assuming that the conditions which regulate bone growth, could we fully discover them, would be found as constant in their action as those which govern the phenomena of inorganic nature, the speaker proceeded to give his views of the true method of investigation to be pursued, and to review the history of opinion upon the subject of osteogenesis, touching also upon the general history of experimental research in medicine and its cognate sciences. It was important to seek for the minor laws that modify the working of the more general ones, producing perturbations which, whether seen in the growth of a cell, in the formation of a crystal, or in the motions of a planet, will prove, when their laws are discovered, to be not fortuitous, but regular. And to aid in these researches, it was important to bring the results of a broad generalization to bear upon each limited department of study.

To Duhamel, in the last century, when France was the theatre of the highest intellectual activity, was due the discovery of the property of the periosteum to reproduce bone. The theory, suggested by his studies in vegetable physiology, he established by experiment. It was opposed by his contemporaries and rejected by Bichat and Scarpa, who for a time held almost undisputed sway over medical opinion. Later, Dupuytren admitted the action of the periosteum in forming the "provisional callus"; but it was only about a century after Duhamel's discovery that it was forced into general recognition by the efforts of many investigators, prominent among whom was Flourens. At present Sédillot is the leading opponent of the doctrine that the detached periosteum has the power to reproduce bone, maintaining that the only way of insuring regeneration, in cases of necrosis, is to scoop out (*évider*) the bone in such a manner as to leave its outer layer still adhering to the periosteum. He has been ably refuted, and the efficacy of subperiosteal resection fully established, by Holmes and many others. Among the surgeons in this city whose experience upon this point would seem to be conclusive, may be mentioned Dr. James R. Wood.

But the repair of bone is not left dependent upon the periosteum alone. The medullary tissue has a similar power, which, as Goujon has conclusively shown, it may exhibit after transplantation into vascular parts, especially in early life, when it contains an abundance

of calcareous salts. But it is far less likely to produce bone than is the periosteum, under similar conditions, and the bone produced is soon absorbed, while that originating from periosteum is apt to be permanent. As to the so-called medullary membrane, or endosteum, its functions, whether of reproduction or absorption, cannot be regarded as settled; and indeed its very existence is in dispute.

Although the medullary tissue stands next to the periosteum in osteogenetic power, yet it shares this with nearly all cellular and fibrous tissues, and even muscular tissue may become ossified under favoring conditions. These conditions would seem to be chiefly long-continued or repeated irritation, in connection with "a perverted assimilation of the calcareous salts of the blood." The presence of some of the proper osseous tissues in a state of irritation is also regarded by Ollier as conducive to ossification of the neighboring parts.

The effort to obtain reproduction of bone by transplantation of periosteal flaps (as distinguished from subperiosteal resection), so successful in many of the experiments upon animals, has not commonly met with the same success in man. Still, its satisfactory results, under good conditions, are sufficiently numerous to warrant its recognition as an important surgical procedure, likely in the future to receive a wider application. At present, perhaps the best illustrations of its value are to be seen in Langenbeck's operation for closure of cleft of the hard palate, known as muco-periosteal uranoplasty. The speaker had—in two cases of this operation which he had published—convinced himself that the cleft in the palate might thus be closed by a growth of new bone.

In conclusion, Dr. Whitehead related three experiments of subperiosteal resection which he had made upon rabbits, and exhibited the specimens showing their results.

Dr. J. C. Nott said that, some thirty years ago, Dr. Toner, now of California, then a young man commencing practice, had published several cases of onychia, in which he had removed the phalanx, leaving the periosteum, and obtained a reproduction of the bone. Impressed by these cases, the speaker had himself followed this practice ever since, and with success. He had heard that old Dr. Dudley was accustomed to treat onychia in the same manner. In a case of necrosis of the upper jaw he had, in removing the bone, left its periosteum in situ, and the bone was regenerated.

Dr. Sayre had from his earliest practice removed phalanges in the manner above described, which he had been taught by Dr. Dudley. It was very important, in such cases, to dress the finger, during the process of healing, so as to preserve its normal shape; otherwise the nail would become hooked over, or some other deformity result. One of the speaker's sons had smashed his finger throughout its whole length, so that at first amputation seemed unavoidable. But by careful preservation of all the periosteum almost complete reproduction of all the phalanges was secured, and the finger was now serviceable, though somewhat shorter than its fellows. The doctor had resected subperiosteally four and one-half inches of the femur of a young man. The bone was completely reproduced, the limb equal in length to the other; and the lad had last winter won a prize in a skating match.

Dr. Chadsey related a case of necrosis of the entire tibia, which was removed as a sequestrum; new bone having formed around it firm and serviceable, though at first large and misshapen. It gradually became reduced to about the natural size. A patient of his had been kicked by a horse above the eyebrow, severely comminuting the outer table. In removing the pieces of bone, the periosteum was left attached to the skin; and the lost bone was restored with no depression or deformity.

Dr. Biggins referred to two cases of necrosis of the lower jaw, from gangrenous stomatitis in children, which had come under his care at the Nursery Hospital, Randall's Island, in 1850. In one of them he had resected the bone from the canine tooth to the angle of the same side; in the other, from the canine tooth to the angle of the opposite side. The periosteum was carefully left in both cases, and in both the part removed was reproduced, though of course without teeth or alveolar process.

The President said that in some cases of pelvic deformity which would otherwise necessitate the Cæsarean section, it had been proposed to resect portions of the pelvic bones so as to permit of delivery, trusting to the undisturbed periosteum to restore the loss. Osteophytes, when they occurred in the pelvis, were most apt to be seated along the linea ilio-pectinea, and might be a cause of rupture of the uterus during labor. He referred, also, to the cases of incurable deafness produced by the sealing up of the external auditory canal by a bony growth.

The Society adjourned.

NEW YORK MEDICAL JOURNAL ASSOCIATION.

MEDICAL RECOLLECTIONS OF ENGLAND IN 1868.

Dr. Bradford S. Thompson, of New York, read a paper with the above title, of which the following is an abstract:

It was in the month of May that we left New York, in the good *packet-ship* Columbia, of the famous "Black Ball Line," bound for Liverpool, a commercial city like our own, with great natural advantages, but, in the words of Dr. Carpenter, "cursed with a neglect of the sanitary laws, cursed also by drink and debauchery to a greater extent than any other town in England. Being the most criminal as well as the most unhealthy city on the island, it is called the *Plague-spot on the Mersey.*"

For the benefit of those who desire to take a trip across the briny ocean for the restoration of health, it is proper to remark that a good sailing-vessel is superior to an ocean steamer in going to the eastward from the first of May until the first of September, for the following reasons:—The westerly winds prevail generally at this season of the year, and are conducive to short passages. Passengers avoid the nauseating, oily smell emanating from the machinery, which helps to originate sea-sickness. The state-rooms are more commodious, and the cabins less cramped; and, contrary to our expectations, a sailing-vessel under a steady breeze rolls less than the prevailing and popular screw-steamers.

The terrible scourge—*sea-sickness*—reminded us of the true and quaint remark made by the living "Nestor of the Presbyterian Church," Rev. Samuel Hanson Cox, D.D., who, several years since, while crossing the Atlantic, said: "Old ocean is one grand dose of ipecac."

The ancient town, as it is called there, of Liverpool has a population of about 500,000 inhabitants, while at the beginning of the eighteenth century it only laid claim to 5,000. Respecting the etymology of its name various opinions have arisen; but, although the

subject still remains a matter of doubt, it is generally believed to be derived from a fabulous bird called the *Liver*, and this accordingly figures in the arms of the town.

Everything in Old England seems to have been built to stand for ages. The pavements, buildings, cabs, and even the inhabitants, all partake of this solid character.

Liverpool is protected by hills from the cold withering north-north-east winds; and the climate, though humid, is more equable than in most other places of the United Kingdom; the sea-breezes temper the heat of summer, and the cold of winter is usually from six to eight degrees below that under the same latitude on the eastern coast. The average temperature ranges from 41° to 61°.

The charities of Liverpool are ninety-six in number, and munificently supported, many of the edifices devoted to charitable purposes being really handsome.

The Royal Infirmary, an extensive and noble edifice, is one of the finest buildings of which Liverpool can boast. Thomas Inman, M.D., the quaint and sound practitioner, is one of the attending physicians of this institution, which reminds one of the late New York Hospital.

The Northern Hospital is the largest of its kind in that city, and is on the whole one of the best arranged, most convenient, and most comfortable in the kingdom. This hospital answers to Bellevue Hospital, in New York City, in its general arrangements and standing.

While alluding to hospitals it is proper to remark that the hospital in Norwich, England, is said to be the finest, cleanest, and best-managed institution in Great Britain.

While on a visit to the quiet village of Hale, about ten miles from Liverpool eastwardly, a tomb of a celebrated *giant* named John Middleton, called the *Child-of-Hale*, was pointed out. He was born in 1758, and was possessed of extraordinary strength; his height was nine feet and three inches, and his hand was seventeen inches long. "The Child-of-Hale Inn," which is near the house which he inhabited, has a sign representing him in appearance and dress.

Manchester, thirty-one and a half miles from Liverpool, is the great cotton manufacturing mart of the world—styled the capital of the manufacturing district of Lancashire—where merchants of all nations flock to buy the fabrics of her manufacturers and merchants. This city has a population of nearly half a million of inhabitants, but presents a better appearance than Liverpool on account of its high and inland situation. The buildings, as a rule, are finer, the streets are wider and more regularly laid out, and the inhabitants more sociable.

It boasts of a noble Infirmary devoted to the sick, which is situated opposite the Queen's Hotel, on Queen's Square, and as we were professionally interested in everything connected with medicine, we gained an introduction to the chief surgeon of that hospital, and can vouch for the great reputation which it holds in the public mind. William Roberts, M.D., Lecturer on Medicine in the Manchester School of Medicine, and author of the "Practical Treatise on Urinary and Renal Diseases," is one of the attending physicians to this Infirmary.

In front of this Royal Infirmary the statues of John Dalton, a chemist of world-wide fame, and James Watt, the great inventor, stand as remembrancers to the rising generation of the parts which those distinguished men played in life.

On Saturday evening, in the month of June, we arrived at the *Charing Cross Hotel*, finished in 1865, an immense structure situated on the busy thoroughfare called the "Strand," in the open space called Charing Cross, which takes its name from the old village of Charing, where stood a cross erected by Edward II. A statue of Charles II. now stands on this spot, and, being a central point for the west end of the town, is a desirable place to stop at. St. Paul's Cathedral, Nelson's Monument, The Mitre (where Dr. Johnson used to delight to take his chops, tea, and ale), Houses of Parliament, and Westminster Abbey are all within a stone's throw of this hotel.

While alluding to *beer*, we remark that the amount used yearly in Great Britain and Ireland amounts to 728,200,000 gallons. It is estimated that the quantity of the beverage consumed in Europe each year would require to contain it a canal five English miles in length, fifty feet deep, and two hundred feet broad. At present England alone spends $100,000,000 a year in beer, and her expenditures for drugs used in adulterating beer and other intoxicating beverages are enormous.

The renowned *Kitcat Club* had its first assemblies at a house in Shire Lane, still standing, near Temple Bar; it was occupied by a pastrycook named Christopher Kat, famous for his skill in making mutton pies, a dish from which the club itself took its name.

"A Kitcat is a supper for a lord," says the prologue of a comedy of 1700. This club was the great Whig club of Queen Anne's time, and originally was composed of thirty-nine members. In later days it numbered the greatest wits of the age. The poet of the Kitcat, *par excellence*, was Sir Samuel Garth, the physician and friend of Marlborough. He is poetically known in the days of King George II. chiefly by his "Dispensary," a satire upon apothecaries. He was a jovial member and a witty man. One night being at the club, and in love with the wine and the company, he had completely forgotten the fifteen patients whose names appeared on his list of the day, but whom he had so far left unvisited.

When it had become too late to call upon them, he excused himself to his brethren of the Kitcat by declaring that it was no great matter whether he saw them or not. "For nine of them," said he, "have such *bad* constitutions that all the physicians in the world can't save them; and the other six have such *good* constitutions that all the physicians in the world can't kill them."

According to Henry Mayhew, of London, there are upwards of 75,000 individuals, or about one-fortieth of the whole population of the metropolis, getting their living in the streets. These are severally:—

Street Sellers,	Street Buyers,
" Finders,	" Performers,
" Artists and Performers,	" Artisans, or
Working Pedlers, and Street Laborers.	

There are upwards of 100 corn-doctors, or *chiropodists*, who manage to eke out a subsistence; and some of them exhibit quite a good deal of eloquence as they pass through their beats—for each one has his customers and particular streets.

The London cat and dog's meat carriers or sellers—nearly all men—number at least 1,000. It is believed by one who has been engaged at the business for 25 years, that there are from 900 to 1,000 horses, averaging 2 cwt. of meat each, boiled down every week; so that the quantity of cats and dogs' meat used throughout London is about 200,000 pounds per week, and this, sold at the rate of 2½d. per lb., gives £2,000 a week for the money spent in cats and dogs' meat, or upwards of £100,000 a year.

There are 14 *General Hospitals* in London, making up 3,526 beds for in-patients; they received, in 1867, 32,199 in-patients, and had 399,146 out-patients.

Sixty-six special institutions, for every conceivable ailment, have furnished accommodation for 13,144 in-patients, and 152,079 out-patients, within the same space of time. Some of these have been in operation 300 years. The oldest among them is *St. Bartholomew's Hospital*, which was founded in 1123, and re-founded in 1547, under Henry VIII. It has 650 beds, and its income is over £30,000 per annum.

Dr. Clement Godson, of London, has prepared the subjoined midwifery statistics—from January 1, 1862, to December 31, 1868:—Of 5,734 deliveries in *St. Bartholomew's Hospital*, there were 49 cases of twins; 1 in 117.02, or 0.855 per cent. Of the 5,783 children born, 3,065 were males, that is, 53 per cent.; 2,718 were females, that is, 47 per cent., so that the excess of males over females was 6 per cent.; 5,502, or 95.95 per cent., were head presentations; 13, or 0.24 per cent., were face presentations; 64, or 1.12 per cent., were breech presentations; 35, or 0.61 per cent., were presentations of some part of the lower extremities; 5,504, or 95.17 per cent., were born living. Twenty-one women, or 0.37 per cent., died either within a month of delivery, or from the effects of labor. The forceps were used 128 times. Craniotomy was performed 4 times, and the mother recovered in every instance.

Guy's Hospital, Southwark, was founded by Thos. Guy, Esq., a bookseller, in 1721, who left the sum of £220,000 as an endowment. It has a yearly income of £27,000, and 575 beds. This is the largest hospital in London. An additional sum of £200,000 was left to it in 1829 by a Mr. Hun.

St. Thomas' Hospital, Southwark, dates as far back as 1553. It has 460 beds, and an income of £31,000. It was removed in 1867, to make way for railway improvements, to the Surrey Gardens, Lambeth, temporarily, awaiting the completion of a new building on the Thames, between Lambeth and Westminster Bridge.

St. George's Hospital, Hyde Park Corner, was founded in 1733. It makes up 350 beds, and has an income of £25,000, derived chiefly from voluntary contributions.

The London Hospital, Whitechapel-road, was founded in 1740; has accommodation for 450, and has contributed to it, yearly, £17,000.

The Middlesex Hospital is situated in Goodge Street; has 385 beds, and was established in 1745. It is supported by contributions.

Bethlehem Hospital, Lambeth, better known as "Bedlam," was built in 1547, for the reception of pauper lunatics. It has an income of £15,000, and accommodates 240 patients.

The model asylum for lunatics is *The County Lunatic Asylum*, at Hanwell; it affords accommodations for over 1,300 patients. Its income from county and parish rates amounts to £40,000.

The subjoined hospitals are supported by private benevolence:—*Westminster Hospital*, near the Abbey; *University College Hospital*, Gower Street; *King's College Hospital*, near Clare Market; *Charing Cross Hospital*, Agar Street.

In short, there are in London and vicinity 200 hospitals, infirmaries, asylums, and almshouses—including 31 dispensaries.

Through the kindness of Mr. Hinton we gained an introduction into King's College Hospital and University College Hospital, and witnessed at our second visit an operation for the removal of the entire *right* clavicle for osteo-sarcoma. The patient was a male, about 40 years of age. The patient, we are informed, made a quick recovery, but the case has not been previously reported. Sir Wm. Fergusson was the operator, and those who have been permitted to witness the manipulations of this great surgeon with the scalpel, can vouch for his noted dexterity and gracefulness in surgical operations.

In one of the late issues of the *Leavenworth Medical Herald*, Dr. F. Cooley, of Kansas City, Mo., has reported an extirpation of the entire *left* clavicle for osteo-sarcoma with perfect success. The patient was a male, aged 30 years, and a native of Kansas City, Mo. Nine days after the operation he walked about the room. Twenty days from the operation he visited Dr. C.'s office, completely recovered.

Every medical man visiting London should view the renowned *Museum of the College of Surgeons*, situated on the south side of Lincoln's Inn Fields. The Government, about 70 years ago, bought John Hunter's anatomical museum and presented it to the College. The contents of the museum are illustrative of the structure and functions in the healthy and diseased states, and have been classified and arranged with great skill by Prof. Owen.

Two Cases of Shoddy Disease—an affection not much known in America, as *shoddy*, from old clothes, is not so extensively manufactured in this country—were pointed out by Mr. Beardsley, connected with Dr. Baker Brown's late *Surgical Home*. These patients came from the little town of Dewsbury, which is the metropolis of the manufacture of shoddy. The disease popularly known as "shoddy fever," which is of frequent occurrence in Dewsbury, is a species of bronchitis, caused by the irritating effect of the floating particles of dust upon the mucous membrane of the trachea and its ramifications. In general the attack is easily cured—particularly if the patient has not been for any length of time exposed to the exciting cause—by effervescing saline draughts to allay the symptomatic febrile action, followed by expectorants to relieve the mucous membrane of the irritating dust; but a long continuance of employment in the contaminated atmosphere, bringing on as it does repeated attacks of the disease, is too apt in the end to undermine the constitution and produce a train of pectoral diseases, often closing with *pulmonary tuberculosis*. Ophthalmic attacks are by no means uncommon among the shoddy-grinders, some of whom, however, wear wire-gauze spectacles to protect the eyes. As regards the effect of the occupation upon health, it may shorten life by about five years on a rough average.

"Shoddy fever" is, in fact, a modification of the very fatal disease induced by what is called "dry grinding" at Sheffield; but of course the particles of woollen filament are less fatal in their influence than the floating steel-dust produced by the operation in question.

While alluding to Dr. Baker Brown, we learn that this surgeon is again restored to health, and has recently added to his already brilliant operations by successfully removing a large fibroid tumor of the abdomen from a patient who is reported to be in excellent health.

Specialties succeed in London if not pushed too far. Mr. T. Spencer Wells makes £10,000 and upwards yearly by his ovariotomy and other female business. General operative surgery is one branch, consulting lunacy practice is another, and midwifery is another. One London surgeon receives his £70 per week by hemorrhoids alone.

There are now in the United Kingdom twenty institutions which exercise the power of conferring medical degrees, or of granting licenses to practise medicine or

surgery. They are as follows, with the number of their respective graduates or licentiates during the ten years ending with 1867 attached to each:—

University of Oxford	17
University of Cambridge	61
University of Durham	5
University of London	241
University of Edinburgh	524
University of St. Andrew's	497
University of Glasgow	359
University and King's College, Aberdeen	263
Marischal College and University of Aberdeen	161
University of Dublin	143
Queen's University, Ireland	34
London College of Physicians	242
Edinburgh College of Physicians	68
Dublin College of Physicians	97
London College of Surgeons	4,915
Edinburgh College of Surgeons	1,066
Glasgow Faculty of Physicians and Surgeons	367
Dublin College of Surgeons	582
London Apothecaries' Company	2,823
Dublin Apothecaries' Company	214
Total	12,679

To show what it costs in the United Kingdom to become a general practitioner, the subjoined figures are noted:—

Cost of professional instruction	£100	0	0
Cost of diploma of London College of Surgeons	23	2	0
Cost of diploma of London Apothecaries' Company	10	10	0
Apprenticeship premium	150	0	0
Clothes and miscellanea for five years.	125	0	0
Board and lodging for three years	225	0	0
Total	£663	12	0

Six hundred and fifty pounds is a fair approximation to the amount usually spent by the better class of frugal and industrious young men in qualifying themselves as "general practitioners," by the method enjoined upon them by the College of Surgeons and the Society of Apothecaries, in the exercise of the authority given them by the State.

Before concluding this paper we will remark that the immense number of street-beggars and prostitutes of London, Liverpool, and other large towns of Great Britain, which are seen on every hand the moment one touches foreign shores, help the tourist from the New World to form a wrong idea of the morality and intelligence of our British friends. As civilization advances in America, undoubtedly within fifty years the same characters will be reproduced in New York, Boston, and other noted seaports of the New World, and in equal numbers.

The number of regular prostitutes in the British Isles is estimated at 46,000, and those of a superior class at 322,000. The assumed number of prostitutes in London, of all classes, is about 80,000. It is computed by Dr. Ryan that £8,000,000 are expended annually on this vice in London alone. The average earning of each prostitute is £100 per annum. It is probable that, exceptions apart, the whole of the British prostitute population is renewed every seven years.

Of the "regular prostitutes" it is believed that very few escape contagion at one part or other of their career, while of the occasional and superior classes of prostitutes, of whom less is positively known, it cannot be questioned that very many, perhaps the majority, become infected. If we add to the number of women the number of men who yearly contract venereal disease, a frightful picture of the organic poisoning which is going on there is presented to our minds.

Probably the picture could be drawn in many parts of our own country which would nearly equal in hideousness St. Giles', Petticoat Lane, Ratcliffe Highway, and New Cut, Lambeth, in London.

At three metropolitan hospitals, viz., St. Bartholomew's, Guy's, and the Royal Free, the cases of venereal disease actually treated reach to the yearly number of 73,700; while at King's College, University College, St. Mary's, Westminster, London, and Middlesex Hospitals, sufferers from one form or other of venereal disease amount to from twenty to thirty-three per cent. of the out-patients daily seen. The above figures are sufficient to warn us of the enormous extent of the mischief in question.

An intelligent and renowned medical writer states in the *Westminster Review* that "in England, at all events, the human constitution is deteriorating; that it is more prone to disease than it was thirty years ago; and that within the same period the average duration of life has lessened. According to the returns of the Registrar-General, almost all diseases notable for their fatality are, in proportion to the number of persons living, much more fatal than they were formerly."

The death-rate advanced in the proportion of about 1 in a 1000 to the population of England and Wales in the twenty-nine years between 1838 and 1866, inclusive; and the speed at which it advanced in the more recent portions of that period may be judged from the following average percentage of deaths:—From 1838 to 1863 it was 2·242 per cent.; from 1860 to 1866 it was 2·261 per cent.; from 1863 to 1866 it was 2·348 per cent. This corresponds to 3,000 additional deaths in London alone, and to about 22,000 in the whole of England and Wales.

This slight sketch of the extent of prostitution and venereal disease in the British Isles gives us some idea of the "social evil" there—this great and disgusting blot on civilization.

Who can tell the pestiferous influence exercised on society by one single fallen woman? Woman, waylaid, tempted, deceived, becomes in turn the terrible avenger of her sex. One and another who has been educated in an atmosphere redolent of virtue and principle, and has given promise of high and noble qualities, falls a victim to the prevalence of meretricious allurements, and carries back to his hitherto untainted home the noxious influence he has imbibed. Another and another, within the range of that influence, is made to suffer for his sacrifice of moral rectitude, and they, in their turn, become the agents and originators of fresh evils.

No. 105 East Twenty-sixth Street, New York.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, April 13, 1870.

Dr. J. C. Hutchison, President, in the Chair.

The Committee on Microscopy reported the specimen of uterus presented at the last meeting, by Dr. C. C. Lee, to be one of myoma.

HEART DISEASE AS A CAUSE OF DEATH.

Dr. Finnell exhibited, on behalf of Dr. W. Beach, a portion of the aorta removed from a man ætat. 40, who died suddenly. Extensive calcification of the aortic

valves was the evident cause of death. The ascending arch was also the seat of the most abundant deposit that he had ever seen. The specimen furnished the occasion for the remark, that all forms of organic disease of the heart are liable, from slight causes, to result in sudden death, the statements at the recent meetings of the County Society "to the contrary notwithstanding."

FORCED ABORTION AND DEATH.

A second specimen consisted of the uterus and appendages taken from the body of an unmarried woman, who died as the result of forced abortion. He was indebted to Dr. O'Callahan, of Jersey City, for the specimen. The victim was four months advanced in pregnancy, and, determining to rid herself of the fœtus, consulted a noted abortionist, who, according to her statement, introduced silver tubes several times. At the end of a week abortion took place, followed by violent peritonitis, which terminated in death on the sixth day. At the autopsy purulent deposit was discovered in the pelvis, with adhesions at all points. The cavity of the cervix uteri was furrowed with lacerations, evidently done with some smooth instrument, such for instance as a catheter. In connection with this case he referred to another similar one, in which, at the same period of utero-gestation, abortion was produced by some patent pills. The patient applied to an advertiser, and received instructions to take five, instead of which she took nineteen. The result was extreme hypercatharsis, metritis, and speedy death. As is quite usual in such cases, the poor victim refused to disclose the name of the murderer.

DEPRESSED FRACTURE OF SKULL IN A DROWNED MAN.

A third specimen exhibited by Dr. Finnell was a portion of calvarium removed from a body that had been in the water for many days. Decomposition was so far advanced that no absolute cause for death was discoverable, save perhaps that which was to be seen in the portion of skull presented in the shape of a fracture extending from the middle of the frontal bone obliquely outwards, crossing the fronto-parietal suture, and terminating two inches to the left of the parietal bone. The fracture was markedly depressed, was four inches in length and a quarter of an inch in width, and seemed to have been produced by some such instrument as an axe. The corresponding portion of the vitreous table was also fractured, and depressed to the extent of an inch in length to half an inch in width. The question was,—Did this man receive this injury at the hands of an assassin, or was it inflicted by falling against some projecting rock in the water? The presumption seemed to be in favor of the former.

Dr. Sayre remarked that the specimen illustrated the necessity of trephining in cases of comparatively slight external evidences of depression of bone.

EPITHELIAL CANCER OF LIP IN A PATIENT AGED THIRTY-TWO.

Dr. C. C. Lee presented an epithelial cancer of the right lower lip, which he had removed that afternoon. The specimen was interesting only in reference to the age of the patient—the subject, a male, being only thirty-two years old. The growth began eight weeks ago as a small pimple, which subsequently ulcerated and enlarged. He was not a smoker, neither were there any carious teeth in the neighborhood. The mother and grandfather had died of cancerous disease. The growth in the lip presented all the typical appearances of epithelial cancer in its earlier stages. It was removed by the ordinary V-shaped incision. Referred, by request, to Committee on Microscopy.

Dr. Finnell remarked that he had met with two cases of epithelial cancer of lower lip in patients under forty-five years of age, being respectively forty and forty-two.

Dr. Rogers had treated a young German for the same disease, in the same locality, who was under thirty-five.

INTUSSUSCEPTION IN THE ILEUM AND SIGMOID FLEXURE OF THE COLON.

Dr. Lewis Smith presented two specimens, one of which was a large intestine removed from an infant that died at the age of five months, of hemorrhage from a thoracic abscess. At the autopsy there were found several simple intussusceptions in the ileum, and one in the sigmoid flexure of the colon. He did not recollect ever to have met with the lesion in that locality unattended with symptoms. For the purpose of explaining the frequency of the occurrence of that accident in that particular locality, he called the attention of the members to the loose attachments of the meso-colon, which allowed from a quarter to a third of the gut to descend below the brim of the pelvis. The involution, although perfect, did not produce perfect closure of the tube.

SACCULATED KIDNEY FROM CALCULUS.

A second specimen was a left kidney removed from a female aged sixty-four, who died in the Charity Hospital so suddenly that no satisfactory history had been obtainable. On making the post-mortem examination gall-stones about as large as peas were discovered in the gall-bladder. The lesion of chief interest, however, was found in the organ exhibited. The right kidney was somewhat larger than natural, and appeared to have undergone slight fatty degeneration. The left kidney was atrophied and sacculated; the pyramidal portion was nearly destroyed, and the cortical substance somewhat compressed. In searching for the cause of this condition a calculus was discovered in the upper portion of the ureter. The obstruction to the tube was not, however, complete. No opportunity had been offered, up to the time of presentation, for a chemical analysis.

A NEW METHOD OF PUNCTURING THE BLADDER.

Dr. Buck presented a specimen of bladder and rectum taken from the body of a patient of Saint Luke's Hospital, aged 37. The case was one of old stricture, with numerous fistulous tracts running in different directions and opening in the scrotum, perineum, and on the inside of both thighs; on the whole, the most aggravated case of the sort that the presenter had ever seen. In 1851 the patient contracted gonorrhœa, which from his account was quite a severe attack, and for which he was under treatment a long period. He finally was able to resume his seafaring life, when he had a fistula in ano for which he underwent an operation in one of the London hospitals. Subsequent to this an opening formed in the perineum from which urine escaped. He gave no account of any aggravated symptoms such as might accompany an old and bad stricture. When admitted to Saint Luke's Hospital urine was escaping from no less than fourteen fistulous orifices. A stricture was then found at the bulbous portion, and was operated on by an external incision. This had failed to close at the time Dr. Buck took charge of the patient. The urethra was exposed for at least an inch at its perineo-scrotal portion, and a number 12 sound could be passed into the bladder through the entire length of the urethra. The bladder itself was not in as bad a condition as might have been supposed; it could retain

its contents for three or four hours at a time, and there was no considerable deposit of muco-pus. His general condition was fair. In this case there seemed to be no resource left to the patient save that of cutting off the flow of urine through these fistulous openings, and thus allowing them to close up. The expedient was proposed to the patient, who was only too ready to accept anything that promised relief. The operation was accordingly performed on the Wednesday preceding the meeting. The perineum presented an appearance not easy of description, being generally thickened throughout and covered with ridges and pouting eminences, some the size of the end of the thumb, which marked the situations of the numerous fistulæ. Three or four of these redundancies were snipped off. A fistulous opening was also found to communicate with the rectum about two inches from the anus, which allowed the passage of flatus not only through it, but through other openings with which it in its turn communicated.

The patient, after being etherized, was placed in the usual position for lithotomy. A full-sized sound was introduced to serve as a guide, and an incision was made, such as would be required in the bilateral operation for lithotomy. The operator followed up the tract by the aid of the thumb in the wound and finger in the rectum, and, gradually working his way back, encountered the fistulous opening, which communicated with the gut. A tract was then worked to the distant margin of the prostate. The parts were not so readily identified, owing to the thickening; still, the operator was able to satisfy himself of his position, and the canula of the bladder trocar was first introduced upon his finger to the place where the bladder was to be punctured. The trocar was then passed, its handle depressed, and the puncture into the bladder made, encountering the sound. This canula was left in the bladder, and an inner canula afterwards introduced with rounded end and lateral openings, so as to protect the bladder from the edges of the first tube.

Twenty-four hours after the operation the patient was found in a comfortable condition, his water escaping exclusively through the canula, and controlled by a plug. No complication showed itself until forty-eight hours after the operation, when he had a rigor and began to complain of pain in the lower part of the abdomen, more particularly in the left iliac region. The abdomen soon became tumid, and the characteristic vomiting of peritonitis soon showed itself. The urine continued to be discharged freely through the instrument.

The treatment employed was narcotic, by hypodermic injections of morphine and local soothing applications. He survived until Monday morning. Late on Sunday evening, Dr. B. noticed that there was an emphysematous crepitation in the right iliac region and towards the pubes.

Dr. Buck stated that his fear was, that he had damaged the peritoneum in his operation, notwithstanding he felt very certain of his geography.

At the autopsy the incision, as it approached the pubes, opened into an interparietal abscess that extended towards the left iliac region, but was separated from the abdominal cavity by the peritoneum and probably the transverse fascia. The crepitus felt during life was no doubt caused by the gas generated in this abscess. The intestines occupying the pelvis were adherent to each other and to the parietes by loose lymph, which floated in a moderate amount of seropurulent matter. The cul-de-sac between the bladder and rectum showed no more appearance of peritoneal inflammation than elsewhere. The tract of the puncture was separated by at least half an inch of tissue from the peritoneal cavity.

The question had suggested itself to Dr. B. since the autopsy, whether this peritonitis had not been dependent on the breaking of the abscess into the peritoneal cavity, this abscess having probably been primarily caused by urinary infiltration of old date. It was to be regretted that no search had been instituted with the view of determining if such a communication had existed. An interval of forty-eight hours having elapsed before the peritoneal symptoms showed themselves, might perhaps be regarded as corroborative evidence that the operation itself was not chargeable with the peritonitis. The close proximity of the abscess to the peritoneum might of itself have caused the peritonitis.

The inner surface of the rectum was as black as ink, as far as it was exposed. The inner surface of the bladder was thickened, contracted, and a good deal reddened by congestion.

The operation was not a usual method of puncturing the bladder, and in some cases he believed it had advantages over others. In conclusion, he stated his determination of resorting to it for the purpose of relieving the bladder in obstinate and violent cystitis.

Dr. Sayre remarked that Dr. Parker had proposed some years ago a similar plan for relieving the bladder.

Dr. Sands believed that Dr. Parker's method (vide Trans. Med. Soc., State of New York, 1867, page 345) had all the advantages of that proposed by Dr. Buck, without its special dangers. To be sure, in the present case, there seemed to be a doubt whether the abscess in the pelvis existed previous to the operation. It appeared, however, quite probable that the inflammation of the pelvic areolar tissue, if not set up by the procedure, was at least aggravated. Again: If further experience of this mode showed it a safe one, it would entirely unsettle the notions of surgeons and anatomists in regard to the danger of invading that part of the body with the knife. It was a maxim in almost all operations in this region to restrict the incision to the prostate, and not permit it to pass through the fibrous tissue which invests the organs, else all the consequences of urinary infiltration in the recto-vesical space may ensue. He thought it remained to be shown whether the operation was not a very dangerous one, and he failed to see its advantages over the simpler method by Dr. Parker. By the latter, the indications for relieving the bladder were equally well met by cutting behind the point of stricture.

Dr. Buck, in the latter connection, remarked, that an incision through the membranous portion of the urethra would have involved the diseased parts.

Dr. Rogers remarked that he had under observation a case as similar to Dr. Buck's as any one case could be, in which a perineal incision had been made anterior to the prostate. All the urine for the past three months had been made through that opening. The irritability of the bladder had in consequence entirely disappeared, and the extensive and numerous fistulous tracts down the thighs had entirely healed. Besides the grand stricture there were other minor ones, which had been overcome by the process of dilatation.

SPONTANEOUS DISCHARGE OF HEAD OF FEMUR.

Dr. Nolan exhibited the head of a femur, that had been discharged spontaneously from a boy aged fifteen years. The patient had been attacked with acute inflammation of one of the hip joints, which in the course of time developed all the characteristic symptoms of morbus coxarius. The usual local antiphlogistic mea-

sures had been resorted to without marked relief, when finally confinement and the splint was recommended. To this latter the patient refused to submit. An abscess formed on the outer aspect of the thigh, just below the trochanter major, opened, and kept discharging until finally the portion of the bone referred to was expelled. At the time of the report the patient was doing well. The limb was an inch and a half shorter than its fellow, the toe pointing outwards. The specimen presented the appearance of an epiphyseal separation.

The Society then went into executive session.

Correspondence.

A NEW LACHRYMAL STYLE.

To the Editor of the Medical Record.

Sir—In the Transactions of the American Ophthalmological Society for 1869 I notice an article by Dr. John Greene, of St. Louis, Mo., on the use of leaden styles in obstructions of the lachrymal passages. For the past four years I have been in the habit of using styles made of pure silver wire—the same that is ordinarily used for sutures. The manner of making them is this: Take a piece of the wire of the proper gauge, and having ascertained the precise length needed, measure the distance on the wire, and then double it two, three, or more times, as may be necessary to produce the requisite thickness; taking care to make one of the loops or folds at the end about two lines longer than the rest, to form the head or support when the instrument is in position. The two ends are then to be seized firmly with forceps and the wires twisted into a miniature rope, the free ends clipped off and smoothly bent down, the loop for the head expanded and turned at a proper angle, and the style is complete.

The advantages of this style are that it can always be made available, the resources of every surgeon's pocket-case affording the necessary materials for making them extemporaneously. The twist of the wires favors the flow of the tears along its sides, and affords convenient lodgment for any medicines in the form of ointments or cerates which it may be necessary to apply to the walls of the canal. Their flexibility is sufficient to allow of their adaptation to any curvature of the passages, without the disadvantage of too great flexibility, as is the case with the smaller sizes made from lead, and which thereby renders their use impossible without a special instrument for introducing them. Their length and thickness can be accurately adjusted to the wants of every case, without the necessity of either keeping a large assortment constantly on hand, or of procuring them from the instrument-maker, by which much trouble is often incurred, and much valuable time lost in the treatment of a case. It must be borne in mind that only pure silver wire is fit to be used in making them, galvanized iron or other material being unsuitable.

Chas. Bliss, M.D.

861 West 43d Street.

Ovariotomy during Pregnancy.—Last September, Mr. Spencer Wells performed ovariotomy in the fourth month of pregnancy. There had been rupture of the cyst and peritonitis. The woman recovered, and has since been delivered of a child at full term.

Premature Puberty.—A case of premature puberty is mentioned in the Journal of the Gynæcological Society of Boston, where a child began to menstruate at the age of three-and-a-half years.

Medical Items and News.

Delegates to the American Medical Association.—The County Society has appointed the following gentlemen delegates to the approaching meeting of the American Medical Association: Drs. S. A. Raborg, E. C. Harwood, Wm. T. Lusk, E. H. M. Sell, J. L. Little, J. C. Smith, W. R. Whitehead, T. C. Finnell, Robert Newman, George M. Beard, Chas. A. Leale, Moreau Morris, J. C. Nott, H. G. Piffard, B. S. Thompson, John P. Garrish, A. E. M. Purdy, and Geo. T. Elliot. Any of the above unable to attend, and any others who may wish to attend as delegates, are requested to communicate with Dr. A. E. M. Purdy, Secretary, 260 Madison Avenue.

The following gentlemen have been elected from the New York Pathological Society:—Dr. E. Peugnet, H. Knapp, W. B. Bibbins, W. Neftel, T. C. Peters, E. G. Janeway, E. H. M. Sell, E. Eliot, R. Watts, E. Lee Jones, C. C. Lee, J. A. Monell, A. Flint, A. Clark, W. H. Carmalt.

Albany Medical College.—Dr. Thomas C. Durant, of New York, a graduate of the College, and an early student of Drs. March and Armsby, has given $15,000 to endow the "March Professorship." Drs. E. R. Peaslee and Meredith Clymer, of New York, and Dr. William P. Seymour, of Troy, have accepted invitations to deliver short courses on special subjects the coming fall.

New York State Hospital for Diseases of the Nervous System.—A meeting of the trustees of this recently incorporated charity was held at the residence of William H. Appleton, Esq., No. 3 Madison avenue, on the evening of the 23d inst. The following is a list of the trustees: William H. Appleton, George T. Elliot, Edward Cooper, L. A. Sayre, H. C. Fahnestock, Thurlow Weed, William A. Hammond, Roswell D. Hatch, William H. Van Buren, F. S Winston, James R. Wood, and Austin Flint. The organization of the Board was completed by the election of the following officers: President, William H. Appleton; Vice-President, Thurlow Weed; Treasurer, H. C. Fahnestock; Secretary, R. D. Hatch. The medical officers are as follows: Physician-in-chief, Dr. William A. Hammond; Consulting Physicians, Drs. Austin Flint and George T. Elliot; Consulting Surgeons, Drs. James R. Wood and Lewis A. Sayre. The trustees are confident of being able to erect a suitable building shortly. For the present they will rent one.

Dr. Jonathan Letterman Injured.—This surgeon, formerly in the United States Army, now Coroner of the city and county of San Francisco, met with a fracture of the femur, above the knee, February 21st, by being thrown upon the pavement while stepping from a carriage.—*Cal. Med. Gazette.*

Alexis St. Martin.—This individual, whose case has furnished such rare opportunities for observing the functions of digestion, is still alive and well. He lives in Cavendish, Vt.

Death from Chlorine Gas.—A case of death occurred lately in Dublin from the inhalation of chlorine gas. On post-mortem examination the chlorine was detected in the ventricles of the brain, and less perceptibly in the bronchial tubes. This is, we believe, the first case of death that has ever taken place from this gas.—*Lancet.*

Liebig.—Professor Liebig has received the Albert Medal from the Society of Arts, Trade, and Manufac-

ture of Great Britain. This is considered to be a great distinction, as only one such medal is awarded annually; and this is the first that has been given to a German.

PATHOLOGY OF INSANITY.—Dr. Tuke, in thirty cases of insanity, has noticed in all microscopic changes in the brain tissue.

TEA CULTURE IN TENNESSEE.—The tea plant is in successful cultivation some ten miles from Knoxville, Tennessee, where it has been raised for the past ten years. The Agricultural Department at Washington furnished the original plants in 1858. The plant is hardy, and needs no protection from frosts. Good judges pronounce it to be not inferior in fragrance and flavor to the imported Young Hyson.—*Nashville Jour. Medicine and Surgery.*

ANÆSTHETICS.—The medical men of Lyons, France, have declared for ether, and against chloroform. M. Petrequin, ex-Surgeon-in-Chief of the Hôtel Dieu at Lyons, says:—"It is evident that the danger lies in chloroform itself. If it kills, it is not because it is impure; *it is because it is in its nature a poison.*"

PATIENTS TREATED IN BELLEVUE HOSPITAL.—The whole number of patients treated in this institution during the year 1868 was 7,085. The number discharged cured or relieved was 5,597. The number of deaths was 795.

THE SOCIAL EVIL IN PHILADELPHIA.—According to the recent investigations of the Midnight Mission, there are in Philadelphia the large number of twelve thousand professional prostitutes, not including the irregulars.

ETHER DRUNKENNESS IN IRELAND.—In the *Medical Press and Circular* we find a communication from a Dr. Draper, stating that ether is now extensively used as an intoxicating beverage in the north of Ireland. He says:—"So far as I can learn, the introduction of the practice dates from about five years since, and it is curious in its very origin. While it is only right to say that one of my correspondents attributes it to the habit acquired by the medicinal use of the drug in cases where alcoholic stimulants were contra-indicated, and another to the desire of 'getting drunk more cheaply,' I have not found either of these theories to bear examination, and my authorities are, with these two exceptions, unanimous in the opinion that ether drinking is a consequence of the laudable efforts made by the Roman Catholic clergy in inducing their flocks to abstain from whiskey. The usual quantity of ether taken at one time is from two to four drachms, and this dose is repeated twice, thrice, or even four and six times daily. It is taken unmixed with water; indeed, its very slight solubility in that fluid would make this a useless precaution; but the usual practice is to take, first, a mouthful of water, then the dose of ether, and again a mouthful of water."

SWALLOWING OF INDIGESTIBLE SUBSTANCES.—Sir William Fergusson calls attention to the case of a sailor, aged 23, who was in Guy's Hospital in 1853, and who, in the course of ten years, swallowed, at different times, at least thirty-five knives. Some of these, or eroded portions, were occasionally vomited or passed per anum. He finally died from exhaustion, and, on opening his body, forty different pieces of blades and handles were found in the abdomen.

DR. GROUX, whom the profession will remember since his advent in this country, in 1858, with a complete absence of the sternum—which was congenital—has settled in Williamsburgh, N. Y.

A SIMPLE AND USEFUL OPHTHALMOSCOPE.—Dr. Wecker (*Boston Medical and Surgical Journal*), at the annual meeting of the Heidelberg Ophthalmological Society, exhibited a simple fixed ophthalmoscope, by means of which two persons could examine a patient at the same time, the image being caught on a transparent sheet of glass.

THE PHOSPHURET OF ZINC.—Meredith Clymer, M.D. (*N. Y. Med. Journal*), states that the internal action of the salt, according to the experiments of Dr. Gubler, varies according to the amount of pepsin present. In those persons where there is but little gastric juice secreted, to small eaters the drug cannot be given without giving rise to gastric troubles and to diarrhœa; while it may be supported by large eaters. Dr. Gubler, who is a high authority, says that phosphorus seems only to be absorbed under the form of phosphuretted hydrogen gas, Ph. H_3; and that we should allow such preparations as will give rise to it, or to free phosphorus itself. All others are inert.

Dr. C. believes, from no inconsiderable experience with it, that phosphoric acid and its salts often do much good in many disorders of the nervous system, and as a eutrophic generally.

REDUCTION OF FARE FOR DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.—The Permanent Secretary, William B. Atkinson, M.D., of Philadelphia, under date of April 19, 1870, writes:—The following commutation has *thus far* been obtained:—

Morgan Line of Steamers (N. O.) will pass delegates for *one fare* the round trip.

The Charleston and Savannah, Atlantic and Water Line, *via* Knoxville or Nashville and Louisville; Orange and Alexandria; South Carolina; North-Eastern; Short Line between Louisville and Cincinnati Railroads, will *return free* on certificate of Permanent Secretary.

Excursion tickets will be issued by the Baltimore and Ohio; Milwaukee and St. Paul; Milwaukee to Chicago; Louisville and Cincinnati; Louisville and Nashville; Mobile and Ohio; Mobile and Montgomery; Memphis and Louisville; N. O., J. and G. N.; Hannibal and St. Joseph; Tennessee and Virginia; Mississippi Central; Memphis and Charleston, *all at one fare;* New Jersey Transportation Line, from New York to Washington and back, $10.70; New York and Washington Air Line, one-third less; Steamers and Mobile Trade Co at one fare; Boston to New York, $7; Philadelphia, Washington and Baltimore, to Washington, $6.50; Louisville and Cincinnati steamers, $5, with meals and rooms.

The delegates from New Orleans will leave at 5 P.M. by special sleeping car on Thursday, April 28, *via* N. O., J. & G. N.; Mississippi Central, Memphis and Charleston, and Tennessee and Virginia Railroad, arriving at Washington on Sunday. The party to consist of not less than twenty-five, including families of delegates, and return by same route. Fare, $55; ticket good to New York for thirty days.

A second party of not less than twenty-five may travel *via* Chicago, the Lakes, New York, and Philadelphia, upon the same terms as above.

SUCCESSFUL CASE OF TRANSFUSION.—Much interest has been excited in professional as well as general circles by a case of uterine hemorrhage, in which transfusion was successfully performed by Drs. Beatty, Colles, and McDonnell. About ten ounces of blood were taken from the husband of the lady.—*British Med. Journal.*

American Medical Association.

TWENTY-FIRST ANNUAL MEETING,

HELD IN LINCOLN HALL, WASHINGTON, D. C.

FIRST DAY—MAY 3, 1870.

PROF. G. MENDENHALL, PRESIDENT, in the Chair.

THE Association met pursuant to adjournment, and was called to order by the President, at 11 o'clock A.M.

Prayer was offered by Rev. Charles B. Boynton, D.D., of Washington, D. C.

ADDRESS OF WELCOME.

DR. THOMAS ANTISELL, of Washington, D. C., in a brief and appropriate address, bade the members of the Association a cordial welcome. The Association was peculiar in representing an immense area of territory, and in bringing together medical men familiar with the extremes of disease incident to widely separated regions of the country. He trusted that out of such reunions might grow increased good-fellowship and *esprit de corps*, increased respect from the public toward the profession, higher modes of thought, purer springs of action, increased peace within the profession, and increased strength without. He bade one and all a hearty welcome to the metropolis.

ENTERTAINMENTS AND RECEPTIONS.

The following was announced as the programme for the evenings at the disposal of the Association:—

Tuesday, May 3d.—Reception of the Association by the President of the United States, at 8 P.M.

Wednesday, May 4th.—At 7 P.M., visit of the Association to the Army Medical Museum, and reading of papers.

Thursday, May 5th.—At 8 P.M., illumination of the Capitol dome, and at 9 P.M., reception by Mayor Bowen, of Washington.

CREDENTIALS.

The Report of the Committee on Credentials was presented by Dr. Thomas Antisell, D. C., in which it was stated that they excluded the delegates from the National Medical Society, the American Academy of Medicine, the Howard University Medical College, and the Alumni Association of the Medical Department of Georgetown College.

The minority report of the same committee was read by Dr. Robert Reyburn, protesting against the action of the committee. Dr. Reyburn attempted a personal explanation, and was proceeding with rather violent charges and criminations, when Dr. N. S. Davis, of Chicago, moved that the report be referred to the Committee on Ethics, without remark. A sharp debate ensued, and the motion was finally carried.

DR. BUSEY submitted a protest against the admission of Dr. C. C. Cox, from the State of Maryland, and Dr. Cox took the stand to reply, but Dr. Davis insisted that this matter and all similar grievances be referred to the Committee on Ethics.

ETHICS.

DR. SAYRE, of New York, rose to request that the serious charges made against his character by Dr. Rupanner be referred to a Special Committee on Ethics, as he was chairman of the regular committee, and could not consistently act in the premises.

DR. N. S. DAVIS moved that a Special Committee on Ethics be appointed for that purpose. Carried.

The President then appointed Dr. Alfred Stillé, Dr. N. S. Davis, Dr. J. M. Keller, Dr. H. F. Askew, and Dr. Woodward, U. S. A., a Special Committee on Ethics to consider the above case.

ADDRESS OF THE PRESIDENT.

After expressing his high appreciation of the honor conferred on him by the Association, the President proceeded to review briefly the history and work of the Association during the twenty-three years that it had been in existence. That work had been so vast that merely an outline of it could be given in a single address, but it could be safely asserted that progress had been at least as great in medicine as in any other department of science. The co-operation of the entire body of active practitioners had accomplished important results, and those who questioned the fact were those who had themselves done nothing to advance the cause. When they had done their best it would be time for them to complain of the work of the Association.

The influence of the Association had effected a great reform in the matter of medical education, had raised the standard of attainments, and had drawn the line distinctly between the honorable practitioner and the charlatan. We had now a Code of Ethics which in itself was one very important result of the labors of the Association. The Code of Ethics should be made familiar to every student of medicine, and impressed upon all students by their teachers.

Another great work of the Association was the influence exerted on American medical literature, which had advanced to such an extent that we could now return all obligations to our transatlantic brethren. The literature of the Association was very considerable, and he would suggest that much of it was well worthy of publication, but was now lying idle in the archives of the society. There was no time even to read many of the valuable original papers received; and in this connection he would suggest that a longer time than was usual might very profitably be spent by the Association at its annual meetings.

In regard to medical education, the time had arrived for decisive action. Advance was practicable and should be insisted upon, and the schools held accountable for the execution of whatever plan might be deemed best. Of course all could not be done at once, but some system should be matured and adopted without further delay. That there was abundant room for improvement, there could be no manner of doubt.

The custom of the Association had been to send delegates to foreign medical societies. That courtesy had not been reciprocated, and he would recommend that hereafter no delegates be sent to societies that have failed to respond to them in the past.

The President then dwelt at some length on the question of copyrights and patent-rights, taking the ground that there was no analogy between them, and that patent-rights ought not to be claimed by the profession either for instruments, surgical appliances, medicines, or modes of cure of any kind.

The President closed his address, after warning the profession against a possible moral evil resulting from the too liberal prescription of the various forms of alcohol and opium, with a touching allusion to the many distinguished medical men who had been removed by death since the last annual meeting.

A vote of thanks was tendered the President for his address, and a copy requested for publication.

REPORTS OF SPECIAL COMMITTEES.

The Secretary, Dr. W. B. Atkinson, announced the following reports of committees:

"On Cultivation of the Cinchona Tree," Dr. L. J. Deal, Pa., Chairman. Reported, and referred to Section on Practical Medicine.

"On the Cryptogamic Origin of Disease, with Special Reference to Recent Microscopic Investigations on that Subject," Dr. Edward Curtis, U.S.A., Chairman. No report. Committee discharged.

"On the Doctrine of Force, Physical and Vital," Dr. John Waters, Mo., Chairman. Not ready.

"On Variola," Dr. Joseph Jones, La., Chairman. No report.

"On the Relative Advantages of Syme's and Pirigoff's Mode of Amputation at the Ankle," Dr. G. A. Otis, U.S.A., Chairman. Reported, and referred to Section on Surgery.

"On a National Medical School," Dr. F. G. Smith, Pa., Chairman. Reported progress. Continued.

"On Commissioners to Aid in Trials involving Scientific Testimony," Dr. J. Ordronaux, New York, Chairman. No report. Committee discharged.

"On the Climatology and Epidemics of Maine," Dr. J. C. Weston. No report.

New Hampshire, Dr. P. A. Stackpole. No report.

Vermont, Dr. H. Janes. No report.

Massachusetts, Dr. H. I. Bowditch. Reported, and referred to Section on Climatology.

Rhode Island, Dr. C. W. Parsons. No report.

Connecticut, Dr. E. K. Hunt. Reported, and referred to Section on Climatology.

New York, Dr. W. F. Thoms. No report. Continued.

New Jersey, Dr. E. M. Hunt. No report.

Pennsylvania, Dr. D. F. Condie. Reported, and referred to Committee on Climatology.

Maryland, Dr. O. S. Mahon. No report.

Georgia, Dr. J. Harris. No report.

Missouri, Dr. G. Engleman. No report.

Alabama, Dr. R. F. Michel. Not ready.

Texas, Dr. T. J. Heard. No report.

Illinois, Dr. R. C. Hamil. No report.

Indiana, Dr. J. F. Hibberd. No report.

District of Columbia, Dr. T. Antisell. No report.

Iowa, Dr. J. C. Hughes. No report.

Michigan, Dr. A. Sager. No report.

Ohio, Dr. T. L. Neal. No report.

California, Dr. F. W. Hatch. No report.

Tennessee, Dr. B. W. Avent. No report.

West Virginia, Dr. E. A. Hildreth. No report.

Minnesota, Dr. S. Willey. No report.

Virginia, Dr. W. O. Owen. No report.

Delaware, Dr. L. B. Bush. Continued.

Arkansas, Dr. G. W. Laurence. No report.

Mississippi, Dr. W. Compton. No report.

Louisiana, Dr. L. T. Pimm. No report.

Wisconsin, Dr. J. K. Bartlett. No report.

Kentucky, Dr. J. D. Jackson. No report.

"On Veterinary Colleges, Dr. T. Antisell," D. C. Reported. Dr. Antisell began reading a highly interesting report on this subject, but was interrupted by a motion to refer the paper to the Committee on Publication. Carried.

WORK FOR THE SECTIONS.

The following papers were referred to sections:

"Extraction of Tumor from Knee-Joint," A. B. Stewart, Section on Surgery.

"Intra-uterine Injections," J. Byrne, N. Y., Section on Obstetrics.

"Best Method of Curing the Insane," C. A. Lee, Section on Psychology.

"Veterinary Colleges," Dr. T. Antisell D. C., Section on Materia Medica.

"Cellular Structure of Red Blood-Corpuscle," J. G. Richardson, Phila., Section on Physiology.

"Improved Medicinal Treatment," J. H. Griscom, N. Y., Section on Practical Medicine.

"Median Lithotomy," Jas. L. Little, N. Y., Section on Surgery.

"Imperforate Anus, New Operation for," T. M. Healey, Section on Surgery.

"New Method of Effecting Reductions at the Shoulder-Joint," S. Logan, N. O., Section on Surgery.

"Case of Congenital Occlusion of Rima Glottidis," L. Elsberg, N. Y., Section on Surgery.

"Tubercular Degeneration of Kidney," C. H. Olio, Section on Surgery.

"Carbolic Acid in Purulent Conjunctivitis," J. G. Rogers, Md., Section on Surgery.

COMMITTEE ON NOMINATIONS.

A brief recess was then taken to allow of the appointment of State Nominating Committees, which were subsequently announced by the Chair.

ADJOURNMENT.

After some further discussion of personal grievances, the Association adjourned until 9 o'clock next morning.

RECEPTION.

The members of the Association were very pleasantly entertained at the White House in the evening, by President Grant and Mrs. Grant. The delegates were introduced by Dr. T. Antisell, and made themselves at home in the various parlors from 8 to 10 P.M.

SECOND DAY—MAY 4, 1870.

The Association was called to order at 9.30 A.M., and on motion of Dr. Atlee the reading of minutes was dispensed with.

SOCIAL REUNION.

DR. GROSS made a motion to the effect that a social reunion be held at the Arlington House to-morrow evening, each member defraying his portion of the expense of a dinner. Carried.

COMMITTEE ON ETHICS.

DR. A. STILLÉ made a partial report from the Committee on Ethics, in favor of admitting the delegates from the Massachusetts Medical Society, but recommending that Society to purge itself of obnoxious members in future. Adopted.

VETERINARY COLLEGES.

DR. ROSS, of N. Y., moved the reconsideration of the motion referring Dr. Antisell's paper to the Committee on Publication. After some discussion that paper was referred to a special committee, with instructions to report upon it.

PERSONAL GRIEVANCES.

An ineffectual attempt was made to renew the discussion of personal grievances among delegates from the District of Columbia. Dr. Loomis of Washington moved that delegates from the District of Columbia be admitted while the question of their eligibility was pending. Lost. On division, Ayes, 107; Noes, 142.

DR. COX moved that the said delegates be refused admission until the report of the Committee on Ethics. Carried.

REPORTS OF COMMITTEES.

DR. T. G. SMITH read the report of the Standing Committee on Publication. Accepted.

DR. GROSS moved that instead of the annual volume, the proceedings of the Association be published in a

monthly or other periodical, to be conducted by the Association. Referred to a select committee of five.

Dr. W. B. Atkinson read the report of the Treasurer. Referred to the Committee on Publication.

BRITISH MEDICAL ASSOCIATION.

Dr. Gross submitted a letter from the British Medical Association, regretting that no delegate could be sent on the present occasion, but conveying the good wishes and cordial sympathy of the British Association, with assurances of welcome to future delegates from their American brethren.

On motion, the letter was accepted and placed on file, and delegates appointed to attend the next meeting of the British Association.

The President announced the following delegates: H. J. Bowditch, J. S. Cohen, E. H. M. Sell, L. Elsberg, M. P. Stephenson, R. R. McIlvain, and H. Lindsey.

COMMITTEE REPORT.

The report of the Librarian Committee was read by Dr. R. Reyburn, Chairman. Ordered to be put on file, and bills audited and paid.

ETHICS.

Dr. L. A. Sayre moved that the present Committee on Ethics be discharged, and matters now before it referred to the new committee on the same subject. Carried.

VETERANS.

Drs. McNaughton and Gethard were invited to take seats on the platform, and came forward accordingly.

EDUCATION.

The Committee on Education was called on for a report, but was not prepared.

MEDICAL LITERATURE.

Dr. J. J. Woodward, U. S. A., presented the report of the Committee on Medical Literature, which was read by the Secretary, Dr. Atkinson. The report commented at some length on the lack of originality in American publications, and the freedom with which American writers avail themselves of the labors of foreigners. Allusion was also made to the large number of periodicals issued in this country, and the small amount of really valuable matter they contained, apart from extracts from European journals, which formed a large part of many of our periodicals. Still some improvement was perceptible in this respect, and faithful observation and careful records were less rare than formerly. The question of copyrights was briefly discussed, the committee being of opinion that it was an important question whether we ought not to secure the early passage of an international copyright law. In the matter of translations much was being done, and valuable material was thus constantly brought before the profession; but this would not be interfered with by the proposed copyright. The committee found much to approve in the recent publication of hospital reports, and the manner in which those reports had been kept. Accepted.

THE REUNION.

At this stage of the proceedings a motion was made to reconsider the resolution of Dr. Gross concerning an Association dinner, the result of which was that the whole subject was laid on the table.

NECROLOGY.

The Committee on Necrology, Dr. C. C. Cox, Chairman, requested more time to complete their report. Granted.

COLLEGE FEES.

Dr. Moore, of Missouri, introduced the following resolution:—

"That all medical schools now recognized by the Association be required to charge not less than — dollars for an official course of lectures, under penalty of non-recognition by this Association and all colleges represented on its floor."

Dr. Selden, of Ohio, moved an amendment that the minimum fee be fixed at one hundred dollars in the resolution as read. Carried.

Dr. Yandell, of Kentucky, thought it as absurd to attempt to fix the price of lectures as it would be to try to regulate the price of horses or beef. There was a great difference in the expenses, rents, etc., in cities and in smaller towns; and the mere fact that colleges charged a given sum for lectures would make no difference whatever in the character of the graduates. He thought these things must regulate themselves; the Association could never control the schools. Some institutions gave their lectures free, and the instruction was as good as any.

After some further discussion the motion was laid on the table.

INSURANCE EXAMINATIONS.

Dr. C. T. Collins, of Mass., introduced the following resolution:—"That whereas the business of life insurance has already become one of great magnitude in the United States, and is daily increasing in importance, affording large profits to those interested; and whereas the responsibilities assumed by the medical examiners do not seem to have been heretofore properly appreciated by the different companies; therefore resolved, that this Association recommend that the sum of five dollars be the lowest amount charged for such examination." Carried.

PROFESSIONAL FEES.

Dr. Horner, of Va., moved the following:—"That the American Medical Association do consider the expediency of a plan of uniform rates of charges, properly adjusted to the wants of the medical profession in the United States, presenting a schedule of the minimum fees, and thereby insuring a legal claim upon the community for the payment of such fees, and also diminishing the embarrassment of the young practitioner." Lost.

SUPPRESSION OF ABORTION.

Dr. D. A. O'Donnelly, of Md., offered a resolution that a committee of three be appointed to report on the evil of abortion, and that the Association denounce and expel all who indulged in the abominable practice. Passed.

A NATIONAL SCHOOL.

A paper on the subject of a national school, by Dr. Heard, of Galveston, was read by the Secretary. Placed on the minutes, to be acted upon next year.

NOMINATIONS.

The Committee on Nominations made the following report:—For *President*, Alfred Stillé, Pa.; *Vice-Presidents*, J. S. Wetherly, Ala.; Henry Gibbons, Cal.; J. T. Hurd, Texas; S. Willey, Minn.; *Assistant Secretary*, J. C. Tucker, Cal.; *Treasurer*, Caspar Wistar, Pa.; *Librarian*, F. A. Ashford, D. C.

Committee of Arrangements.—Chairman, A. M. Sawyer; Dr. Brown, U.S.A.; J. C. Tucker; —— Shurtleff; H. Murray, U.S.A.; Dr. Simmons, Cal.; Dr. Carpenter, Oregon; Dr. Monson, Nevada.

Committee of Publication.—Chairman, F. G. Smith, Pa.; W. B. Atkinson Pa.; J. C. Tucker, Cal.; F. A.

Ashford, D. C.; C. Wistar, Pa.; H. F. Askew, Del.; W. Mayburry, Pa.

Committee on Prize Essay.—Chairman, T. M. L. Logan, Cal.; H. Gibbons; H. H. Toland; Beverly Cole, Casper Lane, Cal.

Place of meeting—San Francisco, Cal.

Time—First Tuesday in May, 1871, at 11 A.M.

THE CONSTITUTION.

The question of amending the Constitution was taken up. A paper on the subject, by Dr. Cochran, of Mobile, was read. The paper contained a resolution excluding all colleges, hospitals, and asylums from representation in the Association. Lost.

ETHICS.

The Secretary read a paper from Dr. Whitehead, of N. Y., moving the abolition of the code of ethics. Laid on the table.

ETHICS.

DR. ALFRED STILLÉ, of Pennsylvania, Chairman of the Committee on Ethics, submitted a partial report, recommending that Dr. C. C. Cox be admitted as a delegate from Maryland, as the charges brought against him were too vague to receive the consideration of the committee.

DR. KELLER, of Kentucky, submitted a minority report from the Committee on Ethics, recommending that Dr. C. C. Cox should not have a seat as a representative from Maryland, as he was a resident of Washington, and moved its adoption.

The majority report was adopted.

Various papers were read by the Secretary, and referred to the appropriate Sections. The Association then adjourned until 9 o'clock on Thursday morning.

EVENING ENTERTAINMENTS.

In the evening the members of the Association met, according to programme, in the United States Army Medical Museum, on Tenth street. The early part of the evening was spent in examining the objects of interest in the Museum, which was highly praised by the visitors.

At 8 o'clock the Association adjourned to the lower hall, from which the desks had been removed and accommodations made to enable those present to listen to lectures from Drs. Otis and Woodward of the United States Army.

DR. GEORGE A. OTIS delivered a highly interesting lecture on excisions for gunshot injuries, of which he exhibited many illustrations, in which the operations made had been successful and the patients recovered. The lecture was listened to with much attention.

DR. J. J. WOODWARD then followed with a lecture on Microscopy, in which he illustrated the power of the artificial lights over the sunlight for micro-photography. Dr. Woodward was frequently interrupted by applause, as the excellence of the illustrations occasioned surprise and admiration.

After the lecture of Dr. Woodward the audience adjourned to the Museum, where the examination of the specimens continued to a late hour.

THIRD DAY—THURSDAY, MAY 5.

The Association was called to order at 9.30 A.M.

ETHICS.

DR. SAYRE stated, that having understood that the Committee on Ethics had so much work on hand that his own case would probably receive no attention during the present session, he had to request that the matter be referred to a special committee.

DR. MADDOX moved that the subject be laid on the table. Carried.

MEDICINE ABROAD.

DR. PINKNEY, United States Navy, representative from the American Medical Association to the British Medical Association, read an interesting report, detailing an account of his visit to, and observations of, the medical schools of Europe. The paper was listened to with much attention. Referred to the Committee on Publication.

NOMENCLATURE.

DR. T. G. SMITH, of Pennsylvania, Chairman of the Committee on Nomenclature of Diseases, made a report, with a resolution recommending the modification of the nomenclature of diseases, as prepared by the Royal College of Physicians at London, in 1869.

DR. UNDERHILL, of New York, submitted a paper on the same subject.

The resolution was debated at considerable length by Drs. Smith, McDaniel, of Alabama, Logan, of Louisiana, and others. The report, together with the resolution, was adopted.

PHOTOGRAPHS.

DR. C. C. COX offered a resolution, which was adopted, for the appointment of a special committee to wait upon the Surgeon-General of the United States, and to request the privilege of duplicating the photo-microscopic slides of the tissues so admirably executed by the industry and skill of Surgeon J. J. Woodward, to be prepared under the direction of said committee, and distributed at a fair price to such medical colleges and institutions as may desire their use.

DR. BEEMISS, of Louisiana, from the Committee on Nominations, reported the additional standing committees for the ensuing year, which report was adopted.

COMPLIMENTARY.

DR. ANTISELL offered a resolution of thanks to the Surgeon-General United States Army for the beautiful and instructive exhibition of last evening, and recommending Dr. Woodward and Dr. Otis to the consideration of the Secretary of War as worthy of promotion for their efforts to advance medical education in the military service.

CONDOLENCE.

DR. C. C. COX then offered a resolution of condolence with the family of the late Alden Marsh, of New York, and that a copy of the same be sent to Dr. Alden Marsh's bereaved family. The resolution was concurred in.

VETERINARY COLLEGES.

DR. STEIN, of New York, offered a resolution that the State and county authorities be requested to aid in the support of veterinary colleges in each of the States by appropriation or otherwise. Adopted.

Also, that one or more veterinary surgeons be associated with other physicians in the boards of health when they are appointed by the Governors. Lost.

Also, that veterinary surgeons be appointed to the army with the rank of full surgeons, and also in the Agricultural Department.

DR. OTIS moved as a substitute that the clause relating to appointments of veterinary surgeons to the United States army be stricken out, and that the Government appoint a veterinary surgeon to the Agricultural Department, with a suitable salary. Adopted.

PROFESSIONAL ADVERTISING.

DR. STORER, of Boston, offered the following:

Whereas, The following votes have been passed by the Gynæcological Society of Boston:

Resolved, That in the opinion of the Gynæcological Society, the vote passed at the American Medical Association at New Orleans, at its session of 1869, condemnatory of cards by specialists in medical journals, is in no sense justified by the obvious reading of that section of the code of ethics which prescribes duties for the support of professional character.

Resolved, That such cards ought not to be considered as public advertisements, nor as intended to invite the attention of individuals afflicted with particular diseases, but simply to remind physicians interested in the affections referred to, and desirous of transferring their charge, that there are gentlemen devoting themselves to their treatment.

Resolved, That while the society would discourage a resort to cards in medical journals by gynæcologists, thinking it far better that professional reputation should rest upon no less a foundation than the publication of scientific memoirs, or the delivery of scientific lectures at medical schools, or to physicians, it yet deprecates any attempt to close by legislation what has become a legitimate means of communication between medical men.

Therefore it is moved,

That the vote of the Association at New Orleans, concerning cards of specialists in journals of a strictly medical character, be and the same is hereby rescinded.

Laid on the table.

MISCELLANEOUS.

A resolution was offered that a committee of three be appointed to wait upon Congress and request them to regulate the quarantine laws. Adopted.

The report from the delegate to the Canadian Medical Association was received, and referred to the Committee on Publication.

The report of the Committee on Communications was adopted, and the committee continued.

Dr. Stewart, District of Columbia, offered a resolution that gentlemen not members of the Association were not eligible to serve on its committees. Tabled.

A resolution was offered regulating the duties of superintendents of hospitals. Adopted.

A resolution was offered that as certain so-called medical works had been published which were injurious to the reputation of the profession:

Resolved, That any person signing his name as author of such work shall be refused membership in this Association.

Adopted.

A VALUABLE DOCUMENT.

Dr. Jones, of the District of Columbia, submitted a tabular statement of all the permanently organized medical institutions and colleges throughout the country, embracing much valuable and interesting information, which, after being read, was referred for publication in pamphlet form.

The Secretary, Dr. W. B. Atkinson, warned the Association that the state of the treasury rendered it very doubtful whether so extensive a publication could be undertaken.

Dr. Storer offered to publish it at his own expense, and furnish it to members of the Association at cost.

On motion to that effect the manuscript was handed to Dr. Storer.

FUTURE MEETINGS.

Dr. Mussey, of Ohio, offered the following:

Resolved, That that clause in the by-laws which provides that every alternate meeting of the Association be held at Washington be repealed, and that in the future the place of meeting should be determined at each session of the Association.

Adopted.

REPORT ON INSANITY.

Dr. Kerwen, of Pa., from the Committee on the Treatment of the Insane, read a lengthy and interesting report, which was referred to the Committee on Publication.

Dr. White, of Buffalo, offered a resolution that the different medical schools of the country establish chairs on mental disorders. Adopted.

PRIZE ESSAYS.

The Committee on Prize Essays announced that there had been received six essays of unusual merit. The prize had been awarded to one on the Treatment of Aneurisms, and Experiments in Securing Arteries by a New Method, by Dr. B. Howard, of New York.

EPIDEMICS.

A resolution was offered that a committee be appointed to report what, if any, legislative means could be taken to prevent the spread of epidemic diseases. Adopted.

ETHICS.

Dr. C. C. Cox inquired if the Committee on Ethics would make any further report on the weighty matters before them.

Dr. N. S. Davis, of Illinois, then submitted, on behalf of the majority of the Committee on Ethics, the following report:—

It appears that the matters reported to your Committee of Registration, and so much of the action of the majority of same committee as relates to the same subjects, embrace the three following subjects:

1st. A charge that a majority of the Registration Committee had refused to register the delegates presenting credentials from several societies, colleges, and hospitals in the District of Columbia, which claimed the right to representation.

2d. Direct charges against the Washington Society and the Medical Association of the District of Columbia, accompanied by a protest against the admission of delegates from those bodies.

3d. Direct charges, which had been lodged with the Committee of Registration, against the National Medical Association of the District of Columbia, accompanied by a protest against the registration of delegates from that society, and from such other institutions as were supplied with medical officers who were members of that society.

In regard to the first charge, your committee find, on investigation, that the Registration Committee have duly registered all the delegates from all the medical institutions claiming representation in the District of Columbia, in accordance with the usages and by-laws of the Association, except the Medical Society of the Alumni of Georgetown College, the National Medical Society, the Howard Medical College, the Freedmen's Hospital, and the Small-pox Hospital, these being the institutions included in the charges already mentioned in the third specification.

It remains, therefore, only to consider the second and third specifications, and your committee ask leave to report on these separately. In relation to the second, we unanimously recommend the following resolution:

Resolved, That the charges offered by Dr. Reyburn, as a minority of the Committee on Registration, against the Medical Society and the Medical Association of the District of Columbia, are not of a nature to require the action of the American Medical Association, the first charge referring to a duty imposed on the society by an act of Congress, and the second referring to a matter which does not come in conflict with any part of the code of ethics.

Resolved, That so far as relates to the Medical Society of the Alumni of Georgetown College, it has been shown to us that the Society has sixty resident members, and is therefore entitled to six delegates.

In regard to the third proposition, relating to the National Medical Society, Howard University Medical College, the

Freedmen's Hospital, and the Small-pox Hospital, we recommend the following:

Resolved, That the duties of the Committee of Arrangements, so far as relates to the registration of members, are purely clerical, consisting in the verification of the certificates of delegates, and a report on the same. If credentials in proper form are presented from any society or institution possessing such organization as would place it *primâ facie* in the list of institutions enumerated in the constitution of the Association as entitled to representation, but against which charges have been made or protests presented, the names of the delegates presenting such credentials, together with the charges or protests in the possession of the committee, should be presented to the Association for its action.

Resolved, That the charges lodged with the Committee of Arrangements against the eligibility of the National Medical Society of the District of Columbia have been so far sustained that we recommend that no members of that society should be received as delegates at the present meeting of this Association.

N. S. DAVIS,
H. F. ASKEW,
J. M. KELLER.

DR. ALFRED STILLÉ, of Pennsylvania, then submitted the following minority report:

The undersigned members of the Committee on Ethics, while subscribing to the greater portion of the report of the majority, feel it their duty nevertheless to dissent from the final resolution recommending the exclusion of the members of the National Medical Society of the District of Columbia from the present meeting of this Association; they offer, therefore, in lieu of that resolution, the following:

Whereas the institutions excluded from representation by the action of the Committee on Credentials, viz, the National Medical Society, the Howard Medical College, the Freedmen's Hospital, and the Small-pox Hospital, are regularly organized as the constitution of the Association requires; and whereas the physicians so excluded are qualified practitioners of medicine who have complied with all the conditions of membership imposed by the Association; and whereas in the judgment of the undersigned no sufficient ground exists for the exclusion of such institutions and physicians from this Association; therefore,

Resolved, That the institutions above named are entitled to representation, and that the physicians claiming to represent them are entitled to seats in the American Medical Association.

ALFRED STILLÉ,
J. J. WOODWARD.

Some excitement prevailed after these reports had been read, and several motions were made simultaneously. Although the yeas and nays were called on the question of rejecting the minority report, the vote was as follows:—Yeas, 107; nays, 85. The minority report was therefore laid on the table.

A motion was made to adopt the report of the majority. Carried.

The Association then adjourned until Friday morning.

ENTERTAINMENTS.

At eight o'clock P.M. the dome of the Capitol was illuminated, and at nine o'clock Mayor Bowen and Mrs. Bowen received the delegates at their residence.

FOURTH DAY—FRIDAY, MAY 6, 1870.

The Association was called to order at twenty minutes past nine. The reading of the minutes was dispensed with, except that portion pertaining to the final vote of yesterday, which, on motion of Dr. Curtis, of New York, was amended to read as follows:

"A motion was then made and seconded that the report of the majority of the Committee on Ethics be adopted. Upon this motion a *viva voce* vote was taken, and the chair decided that the motion was adopted, when two members immediately called for the ayes and noes. Pending the putting the question to the Association of whether the call for the ayes and noes be sustained, the meeting adjourned."

A SUBSTITUTE.

DR. J. J. WOODWARD, U. S. A., offered as a substitute for the resolution of yesterday, regarding the duplication of photographic views of tissues made by himself, the following:

Resolved, That the Surgeon-General be requested to authorize Dr. Woodward to make copies of his photo-microscopic slides, to be distributed at a fair price to such medical colleges and institutions as may desire their use. Adopted.

WOMEN.

The Secretary, Dr. W. B. Atkinson, read a report from the Committee on Ethics regarding the admission of delegates from the Philadelphia Woman's Hospital and Woman's College.

The question of the eligibility of such delegates caused a lively discussion. Dr. Hartshorn, of Philadelphia, spoke in the affirmative. Dr. Cohen reminded the Association that if they admitted these delegates they could not consistently refuse admission to women from the same institutions.

DR. JONES moved that the subject be indefinitely postponed. Carried.

EXCLUSION OF HOWARD COLLEGE.

DR. PALMER, of Maine, offered a resolution of inquiry as to why the Howard Medical College had been excluded from admission to this Association, stating that the institution had been chartered by special act of Congress, and was recognized all over the country as a first-class college.

A discussion took place on the adoption of the resolution.

DR. N. S. DAVIS, of Ill., said if the resolution was withdrawn he, as Chairman of the Committee on Ethics, would give his reasons in writing why the institution was excluded.

The resolution was withdrawn.

RENEWAL OF PRESCRIPTIONS.

DR. R. J. O'SULLIVAN, of New York, offered the following:

Whereas, Apothecaries are accustomed to renew medicines prescribed by physicians without due authority from the physician, thereby doing much injury to patients, and by which many lives have been destroyed; and as apothecaries are unwilling to discontinue the practice except by a general action: Therefore,

Resolved, That this Association take such action as will bring about the discontinuance of the practice.

Referred to a special committee.

PROTEST BY NAVAL OFFICERS.

A paper was submitted protesting, in the name of one hundred and eighteen medical officers of the navy, against the adoption of Dr. Pinkney's report.

DR. PINKNEY made some remarks in defence of his report.

The protest was laid on the table.

A motion was made to refer the whole subject to a special committee of three, to report at the next meeting of the Association. Carried.

INEBRIATE ASYLUMS.

DR. NICHOLS, for the Committee on Inebriate Asylums, asked longer time to prepare a report. Granted.

ADMISSION OF WOMEN.

DR. HARTSHORN, of Philadelphia, offered a resolution that the Constitution be so amended as not to exclude women from membership of this Association. Laid over till next year, according to rule.

ANOTHER AMENDMENT.

DR. POWELL, of Georgia, moved, in amendment to the constitution, that the Association refuse admission to delegates not in good standing in local societies. Laid over for action next year.

DR. SAYRE'S CASE.

DR. HIBBERD, of Indiana, moved that the papers pertaining to Drs. Sayre and Rupanner be referred to their local societies for action thereon. Carried.

INSTITUTIONS FOR INSANE.

DR. LEE, of New York, presented a report on Institutions for the Insane. Referred to the Committee on Publication.

THANKS.

A vote of thanks was tendered to Mayor Bowen for entertaining the Association at his residence last night.

HONORS.

A resolution from committee, declaring Dr. Horace Wells, of Boston, to be the first to make practical application of anæsthetics, was adopted.

THE NEGRO.

DR. JOHN SULLIVAN, of Massachusetts, offered the following:

Resolved, That no distinction of race or color shall exclude persons claiming admission to this Association who are duly accredited thereto.

Laid on the table by a vote of 106 against 60.

ETHICS AGAIN.

DR. DAVIS read the following: In reply to the resolution of the Association calling upon the majority of the Committee on Ethics for the reason why they in their report excluded the delegates from the Medical Department of Howard University, they respectfully state that there is nothing in the report which directly excludes delegates from the said University or any other medical institution in the District of Columbia, except the National Medical Society.

The resolution on this subject, reported by the Committee, is in these words:

Resolved, That the charges lodged with the Committee of Arrangements against the eligibility of the National Medical Society of the District of Columbia, have been so far sustained that we recommend that no member of that society should be received as a delegate at the present meeting of the Association.

It will be seen that the only parties excluded from admission as delegates at the present meeting are the members of the National Medical Society. If the Medical Department of Howard University had chosen to send any delegates who are not members of that society, there is nothing whatever in the report to prevent their being received. In the papers referred to your Committee on Ethics were a list of charges, with specifications in the usual form, against the registration of the National Medical Society. These charges may be clearly stated as follows: 1st—That said National Medical Society recognizes and receives as members medical men who are not licentiates, and who are acting in open violation of sections 3, 4, and 5 of the law of Congress constituting the charter of the Medical Society of the District of Columbia. 2d—That a large part of the members of the National Medical Society are also members of the National Medical Association of the District of Columbia, and are openly and freely violating the rules and ethics of the Association to which they have subscribed. 3d—That they have both in its capacity as a society and by its individual members misrepresented the action of the Medical Society and the Medical Association of the District of Columbia, and used unfair and dishonorable means to procure the destruction of the same, by inducing Congress to abrogate their charter. Each and all of these charges were, in the opinion of the majority of your committee, fully proved by the members of the National Medical Society themselves, who appeared voluntarily before your committee as witnesses. Therefore, if we have any regard to the maintenance of the laws of the land or the ethics of our medical organization, the undersigned could not come to any other conclusion than was expressed in the last resolution recommended by the majority of the Committee on Ethics.

DR. REYBURN was allowed five minutes to explain:—He said he never had violated the code of ethics, and when the colored men applied for admittance to the college to which he belonged, that he offered a resolution providing for their admission. He did not think they should be excluded on account of color. His resolution was not received, and he withdrew from the society, and was one of the leading members in organizing the National Medical Society. If this was a violation of ethics, then he had violated the code.

DR. LOOMIS, of the District of Columbia, said he was a member of the Faculty of Medicine of Howard University, and he could see no reason why he was excluded.

DR. JOHNSON, of the District of Columbia, the President of the Medical Society of the District of Columbia, gave a detailed history of the origin and progress of the difficulties in the local societies for the information of the Association, and replied to a number of questions.

After considerable discussion, Dr. H. R. Storer, of Boston, offered the following, which was adopted:

"That inasmuch as it has been distinctly stated and proved that the consideration of race and color has had nothing whatever to do with the decision of the question of the reception of the Washington delegates, and inasmuch as charges have been made in open session to-day distinctly attaching the stigma of dishonor to parties implicated, which charges have not been even denied by them, though present; therefore,

Resolved, That the report of the majority of the Committee on Ethics be declared as to all intents and purposes unanimously adopted by the Association.

The resolution was then adopted by a vote of 112 yeas to 37 nays; after which the meeting adjourned *sine die*.

REPORTS OF THE SECTIONS.

SECTION ON SURGERY AND ANATOMY.

FIRST DAY—MAY 3.

The Surgical Section met at 3 P.M., and was organized, on motion of Dr. Sayre, of New York, by the selection of Dr. Gross, of Philadelphia, as Chairman, and Dr. Darby, of South Carolina, as Secretary.

The Chairman expressed his thanks for the honor conferred, and announced that the Section was ready to proceed to business. On motion of Dr. Thomas Healy, of Indiana, "That a committee of three be appointed

to draft an order of business," Dr. Healy, of Indiana, Dr. Hammer, of St. Louis, and Dr. Warren, of Baltimore, were appointed.

The Chairman suggested that the names of those composing the Surgical Section should be registered, and on motion of Professor Logan, of New Orleans, a recess of five minutes was given for this purpose. On reassembling it was found that fifty-one members had registered. The committee to draft the order of business presented the following rules, which were adopted:

1st. New matters of general interest to this branch of the profession.

2d. Reading and discussion of original papers referred to this Section.

3d. Oral communications and reports and presentation of cases.

4th. Presentation of new instruments, surgical appliances, and pathological specimens.

5th. The usual parliamentary rules to govern this body.

(Signed)

THOMAS HEALY, Chairman,
A. HAMMER,
EDWARD WARREN.

DR. OTIS, U. S. A., moved "that Dr. Buck's case of plastic surgery be the special order for 5 o'clock on to-morrow, the 4th," which, on being submitted, was adopted.

DR. HAMMER, of St. Louis, presented a paper showing the necessity of establishing a surgical journal. On motion of Dr. Raphael, of New York, the paper was referred to a committee, and Drs. Hammer, Logan, and Wales appointed to act and report upon it.

DR. J. L. LITTLE, of New York, read a paper on "Median Lithotomy," illustrating the mode of operation by drawings, the instruments used, the calculi removed, and the history of cases in his own and other hands. This paper caused considerable discussion, in which Drs. Mussey, Raphael, and Wales participated. On motion, "That the statistical portion only of the paper be referred to the Committee on Publication," it was so ordered.

DR. C. H. OHR, of Indiana, presented a patient, to shqw, as he stated, "excision of the entire ulna, except a small portion of the carpal head, in which entire reparation of the bone followed, giving normal motion at the elbow." The mode of operation, with a history of the case, was verbally stated, and the parts of the bone taken away were exhibited.

The case produced a discussion in which opposing views to those of Dr. Ohr were expressed by the Secretary, Prof. Logan, and Dr. Hammer, who regarded the operation as one for removal of sequestra for necrosis in which the periosteum had not been removed, and from which the bone to that extent could be re-formed. Drs. Porter, Washington Atlee, and Healy, also made remarks in opposition to those held by Dr. Ohr on the re-formation of the ulna. On motion, a vote of thanks was tendered to Dr. Ohr for presenting the case and patient.

Another patient, a boy of ten or twelve years, was shown by Dr. Ohr, with a verbal history of the case, in which, for "necrosis and eburnation," four inches of the tibia had been removed, with reproduction of the bone. Dr. Porter, conversant with this case, opposed the view of "necrosis and eburnation," believing it to be an "osteitis with abscess," for which the bone was removed to the extent stated. The periosteum was preserved, and re-formation of osseous tissue had filled the gap, as shown in the perfect function of the leg in standing or walking.

DR. ATLEE, of Lancaster, followed in some general remarks on the rapid increase of bone in acute periostitis, illustrating this condition by a case in his own practice, dying from a short illness, and where was found great development of new bone in the detached periosteum.

A paper "On a Case of Imperforate Anus" was read by Dr. Healy, of Indiana, in which the history, mode of operation, and result were detailed. Dr. Hammer followed by relating a similar case which he also had operated upon with success, a detailed report of which was published in the Humboldt Medical Archives.

On motion, this paper was referred to the Committee on Publication.

The Section requesting the Chairman to read a paper which he had prepared, Dr. Ohr was called to the chair, and Dr. Gross presented his paper, "On a Form of Neuralgia of the Jawbones not yet Described," giving the cause for this pathological condition, the mode of operation for relief, and a detailed history of four cases. On motion, the paper was referred to the Committee on Publication. In resuming the chair the Section, on motion, adjourned at 5.40 P.M., to meet at the usual hour.

SECOND DAY—MAY 4.

The Surgical Section met at 3 P. M., was called to order by the Chairman, and the proceedings of the last meeting read and adopted.

The report of the Committee on Establishing a National Surgical Journal was received and adopted. A letter from Prof. Kinloch, of the Medical College of South Carolina, enclosing photographs of a patient upon whom he had operated for a large fibro-sarcomatous tumor of the upper jaw, was read, and a motion "That it be filed as a history of the proceedings" was accepted. Dr. Sayre, of New York, stated that he had a paper "On Reflex Paralysis Produced by Congenital Phimosis," which he regretted had been left in New York; but if allowed would verbally state the contents. On motion, it was agreed to permit Dr. Sayre to relate his cases. Several members spoke in reference to incontinence of urine resulting from the same cause, and by a similar operation to that of Dr. Sayre—circumcision—good results were effected. After the general remarks on this subject, it was moved and agreed to, "That Dr. Sayre present a condensed report of his paper to the Committee on Publication."

DR. ROGERS read a paper, illustrated by the history of a case taken from others, "On the Application of Carbolic Acid as a Remedy for Purulent Conjunctivitis." Dr. Pomeroy of New York, and the Chairman, followed in remarks acknowledging that carbolic acid was valuable in such cases, but it was not proven, in the paper presented, superior to the remedies generally used. On motion by Prof. Logan, of New Orleans, the paper was referred to the author for publication in a medical journal, and as having been read before the Surgical Section of the Medical Association. Dr. Cox, of Indiana, read a paper of Dr. B. Titcomb, of Baltimore, giving a formula of a liquid for the preservation of wet anatomical preparations and for injecting subjects. A specimen of a fœtus thus preserved for five years was exhibited. On motion, the paper was referred to the Committee on Publication. Dr. S. T. Hubbard, of New Haven, exhibited a very interesting specimen of uric acid calculi, taken from a cyst of the bladder, which he regarded as unique. On motion, the thanks of the Section were offered for the history, description, and exhibition of the specimen.

DR. ELSBERG, of New York, who was to have reported a case of congenital closure of the rima glottidis, on account of illness was absent. Dr. Raphael, of New York, moved, "That as Dr. Cohen was present, and

was in charge of the paper, that it be read." After the reading of this interesting case, illustrated by a drawing and a wax model, the paper was, on motion, referred to the Committee on Publication.

Prof. Logan, of New Orleans, read a paper "On Reduction of Dislocations at the Shoulder-joint by a New Method," which caused considerable discussion. Dr. Russel, of Ohio, made general remarks on the subject, stating that in this dislocation he was in the habit of making the reduction by applying the force upon the scapula in a direction which tended to place the glenoid cavity upon the head of the bone rather than the head of the bone into the cavity, as generally advised. Dr. Raphael and others expressed views in opposition to the merits of the new mode, to which Dr. Logan replied. On motion to refer the paper to the Committee on Publication, an amendment was offered by Dr. Raphael, that the parts original in the described method should be referred, and the motion as amended was adopted.

Dr. A. B. Stuart, of Minnesota, read a paper on "Extraction by Direct Incision of a Fibro-cartilaginous Tumor of the Knee-joint." On motion, the thanks of the Section were returned to the author.

According to special order, Dr. Buck, of New York, read his paper on a plastic operation of the face, describing by casts the mode of operation, and displaying the condition of parts prior and subsequent to the operation. He presented also a patient upon whom, for similar deficiency of parts of the nose, mouth, and cheek, a similar mode of operation had been made; a plaster cast was exhibited, showing the deformity prior to closure of the parts involved. The description of the instrument for the application of the suture called a "pin or suture conductor" was given, to which, in great degree, Dr. Buck ascribes his success in plastic operations.

A vote of thanks, on motion, was offered by the Section for the cases and patient presented, and the paper referred to the Committee on Publication.

At 5.40, on motion, the Section adjourned to meet at the usual hour.

Third Day—May 5, 1870.

The Section met at the usual hour, was called to order by the Chairman, and the proceedings of the previous meeting read and adopted.

Dr. Charles Carlton, of Conn., verbally gave a report of disease of the eye, for which he had performed extirpation. The specimen was presented, showing a cup-shaped ossified portion corresponding to the fundus of the organ, and resting upon the sclerotic coat. On microscopic examination it was found to be osseous tissue. Dr. Gross remarked upon the interest and rarity of such cases, and Dr. Hammer related a similar case for which he had enucleated the globe, and where true bone was formed, the ossific portion not so great in extent of surface as in the specimen presented, but much thicker. Upon motion of Prof. Logan, "that Dr. Carlton give a full report of the case, and that it be presented to the Committee on Publication," it was so ordered by the Section. On reconsideration of Dr. Little's paper on Median Lithotomy, it was ordered "that the whole paper, and not the statistical portion only," should be referred to the Committee on Publication.

Dr. Otis, as directed by the Association to report on the comparative merits of Syme's and Pirigoff's operations, reported that he had made, as far as statistics of cases were collected, a report which he was ready to read; but as many more cases now being collected would add to the value of the paper, he moved "that the report be deferred until the next meeting of the Association, and that the name of Dr. Quinby be added to the committee." Adopted.

Dr. Quinby read a paper on a modification of Pirigoff's operation, and exhibited three casts taken from three patients operated upon by the mode described. The Secretary reported a case where the same operation had been performed with success by Dr. Turnipseed, of South Carolina, and remarked that in regarding this modification as superior to the original operation of Pirigoff, he had for several years in his course on surgery illustrated it upon the dead body. The Chairman stated that soon after Pirigoff had described his operation, he had suggested a similar modification, and had explained it upon the dead subject to classes. On motion, Dr. Quinby's paper was referred to the Committee on Publication.

Dr. Moore, of Buffalo, read a paper "On the Comparative Merits of Lithotrity and Lithotomy," and described two very ingenious instruments which he had devised for the former operation.

A vote of thanks was tendered to the author, and the paper ordered to be referred to the Committee on Publication.

Dr. Buck followed in general remarks upon the comparative merits of the two operations, giving as a general rule his preference for lithotomy.

Dr. Neftel, of New York, read an abstract of a paper "On the Treatment of Malignant Tumors by Electrolysis," illustrated by the history of a case taken from ten others thus treated. Dr. Hammer and the Chairman followed in opposition to the views expressed. On motion, a vote of thanks was tendered by the Section, and the paper referred to the author for publication in a medical journal.

The Chairman, on account of a special engagement, stated that he was obliged to absent himself, and after congratulating the Section on the work performed, the interest manifested by the members, and the courtesy extended to himself, proposed that Dr. Moore, of Buffalo, be called to the chair. On Dr. Moore taking the chair a vote of thanks was tendered Dr. Gross for the manner in which he had conducted the proceedings of the Section.

Dr. Benjamin Lee, of Philadelphia, read a paper on "Idiopathic Lateral Curvature of the Spine," showing also a modified instrument of his own for correcting this deformity. On motion, a vote of thanks was extended to Dr. Lee, and the paper referred for publication in a medical journal.

Dr. Pomeroy read a paper "On the Use of Glasses in Hypermetropia." The Section voted thanks for the paper presented, and referred it to the author for publication.

Dr. Buck, of New York, moved to adjourn *sine die*, and at 6 P.M. the Section adjourned.

Section on Physiology and Microscopy.

The Physiological and Microscopical Section of the American Medical Association met May 3d.

Dr. F. H. Gatchell was elected Chairman, and Dr. Blatchford Secretary.

Dr. Jos. G. Richardson read an able and interesting paper "On the Cellular Structure of the Red-blood Corpuscle," accompanied by demonstration with the microscope and by diagrams.

Referred to the Committee on Publication. On motion, Dr. Richardson was requested to prepare a paper on the white corpuscle. Adjourned to meet the next day at 3.30 P.M.

SECTION ON PRACTICE AND OBSTETRICS.

DR. JOSEPH KAMMERER, Chairman; Dr. J. C. Jackson, Secretary.

A resolution was introduced by Dr. Hunt, of Conn., on Anæsthesia. Laid on the table.

A paper was read by Dr. Griscom, of New York, "On the Use of Sulphite of Soda, and on the External Use of Glycerine." Accepted.

Several other interesting papers were read before this Section.

SECTION ON METEOROLOGY AND EPIDEMICS.

DR. CATLIN, of Conn., Chairman; Dr. N. S. Davis, of Ill., Secretary.

A paper by Dr. Condie, "On the Diseases of Tennessee," was referred to the Committee on Publication.

A paper by Dr. Hammond, of Ill., was similarly referred.

A communication was received from Dr. H. I. Bowditch, of Boston, reporting progress, and referring to his resolutions of last year, and asking that they be adopted. Adopted, and the whole referred to the Association for sanction. Accepted by the Association.

SECTION ON PSYCHOLOGY.

DR. W. GRAY, of Utica, Chairman; Dr. A. Hartman, of Baltimore, Secretary.

A paper was read by Dr. C. A. Lee, of New York. Paper withdrawn.

THE AMERICAN PHARMACEUTICAL ASSOCIATION.

THE Sixth Decennial Convention, to revise the Pharmacopœia of the United States, met in the hall of the National Medical College, Washington, on the 4th inst.

On motion of Dr. Miller, secretary of the Convention of 1860, Dr. Carson, of Philadelphia, was called to the chair, and Dr. John C. Riley, of Washington, chosen secretary *pro tem.*

DR. MILLER moved that a committee of five be appointed to nominate permanent officers of the Convention, which was passed, and the chair appointed Dr. Squibb, of New York; Dr. Ruschenberger, United States Navy; Mr. Colcord, Massachusetts; Dr. Leon Dove, Massachusetts, and Dr. Jenkins, Kentucky.

DR. HOWARD, of the District of Columbia, moved that the chair appoint a committee of credentials, to consist of five, which was carried, and the chair announced the committee as follows: Dr. F. Howard, District of Columbia; Mr. Proctor, Philadelphia; Dr. R. Amory, Massachusetts; Mr. Ebert, Illinois; and Dr. Maddox, Maryland.

The committee reported the following delegates as duly accredited to the Convention: St. Louis Medical College—A. Litton, M.D.; J. S. B. Alleyne, M.D. Maryland College of Pharmacy—W. S. Thompson, J. Tarris Moore, Louis Dohme. Missouri Medical College—Charles O. Curtman, M.D. St. Louis College of Pharmacy—O. F. Potter, M.D.; Hubert Pruin, M.D.; Eugene L. Massott. Chicago College of Pharmacy—Albert E. Ebert, Henry Biroth, C. Lewis Diehl. Jefferson Medical College—John B. Biddle, M.D.; B. Howard Rand, M.D. Medical Society District of Columbia—Thos. Antisell, M.D.; C. H. Lieberman, M.D.; B. F. Craig, M.D. Medical College of Virginia—J. S. Welford, M.D.; R. S. J. Peebles, M.D. Massachusetts College of Pharmacy—Geo. L. H. Markoe, Sam'l M. Colcord. Medical Society of New York—Caleb Green, M.D.; William Manlius Smith, M.D.; Edward R. Squibb, M.D. College Physicians, Philadelphia—George B. Wood, M.D.; Robert Bridges, M.D.; H. C. Wood, M.D. College of Pharmacy of City of New York—William Hegeman, William Nurgaard, B. W. Bedford. National Medical College—George M. Dove, M.D.; Jno. C. Riley, M.D. Medical Department University of Pennsylvania—J. Carson, M.D.; Robert E. Rodgers, M.D. Philadelphia College Pharmacy—William Proctor, jr., John M. Maisch, Alfred B. Taylor. College Pharmacy of Baldwin University—Martin V. B. Clarke, M.D.; Robert D. Murrey, M.D. Medico-Chirurgical Society, Louisville, Ky.—Dr. Thomas E. Jenkins. Baltimore Medical Association—Dr. T. Clay Maddox. Medical Department Georgetown College—Dr. F. Howard, Dr. J. E. Morgan. War Department, Washington, D. C.—Charles Smart, Surgeon. Navy Department, Washington, D. C.—D. W. S. W. Ruschenberger, M.D. Washington University, Medical Department, Baltimore—Harvey L. Boyd, M.D.; James E. Lindsay, M.D. Massachusetts Medical Society—Dr. S. A. Greene, Dr. Robert Amory, Dr. John Borland. Maine Medical Association—Dr. Henry T. Cummins. Medical Department University, Buffalo—Charles A. Lee, M.D. Medical and Chirurgical Society, Maryland—Dr. W. J. C. Duhamel. Baltimore Medical Association—Dr. J. R. Uhler.

DR. E. LLOYD HOWARD, of Baltimore, and Dr. Thos. Miller, of District of Columbia, were invited to take seats in the Convention and to participate in its deliberations.

On motion of Dr. H. C. Wood, of Philadelphia, it was—

Resolved, That such members of Congress of the two Houses as are graduates of regular medical schools shall be invited to attend the meetings of the Convention and participate in its deliberations, and also the Surgeon-General, U. S. A., and Chief of Bureau of Medicine and Surgery, U. S. N.

The committee to nominate permanent officers reported as follows: President, Dr. Joseph Carson, Philadelphia; Vice-Presidents, Drs. Thomas Miller, D. C., and Wm. Proctor, jr., Philadelphia; Secretary, Dr. John C. Riley, D. C.; Assistant Secretary, Dr. James M. Morgan, D. C.

The committee recommend that the Convention direct the secretary to employ a stenographer to note the proceedings; which report was unanimously adopted.

DR. CARSON, on taking the chair, expressed his thanks to the body in a few touching and expressive remarks, and announced that the Convention was ready to proceed to business.

ALFRED B. TAYLOR submitted the report of the Committee on Revision and Publication of the United States Pharmacopœia for 1860; which was accepted.

The President then called for contributions from societies, when the following were presented: Albert E. Ebert, Chicago College of Pharmacy; H. C. Wood, M.D., College of Physicians, Philadelphia; Wm. Hegeman, New York College of Pharmacy; Alfred B. Taylor, Philadelphia College of Pharmacy; J. Farris Moore, Maryland College of Pharmacy; which were referred to a committee of five to report a plan for the revision of the Pharmacopœia.

On motion of Dr. Lee, it was ordered that all societies not prepared to report have permission to hand in their reports to the Committee of Revision.

The President announced the following as the committee to report a plan to revise the Pharmacopœia: D. Bridges, W. Proctor, jr., Colcord, Walford, and Lee.

On the 5th inst., Dr. Lee, from the Committee to Re-

port a Plan to Revise the Pharmacopœia, submitted a report, providing for the appointment of a Committee on Revision and Publication; also, recommending that the measures of capacity be abandoned in the Pharmacopœia, and that the quantities in all formulas be expressed both in weights and in equal parts by weight. The report was adopted, after being amended that the committee should meet in Philadelphia. The committee was also authorized to investigate any new medicine that may be brought forward in the future, and devise formulas for the appropriate preparations of it.

The delegates from the various institutions then selected a Nominating Committee, who in turn reported the following committee to revise the Pharmacopœia: Dr. G. B. Wood, Alfred B. Taylor, Jno. M. Maisch, Dr. Robert Bridges, Philadelphia; Dr. Edward R. Squibb, New York City; Albert E. Ebert, Chicago, Ill.; J. Tarris Mooré, Baltimore, Maryland; G. F. Markoe, Boston, Mass.; Dr. John C. Riley, Washington, D. C.; Dr. Thomas Jenkins, Louisville, Ky.; Dr. Charles A. Lee, Buffalo, N. Y.; Dr. J. S. Welford, Richmond, Va.; William F. Wentzell, San Francisco, Cal.; W. S. V. Ruschenberger, U. S. Army and Navy.

Dr. B. F. Craig, of the District of Columbia, offered a resolution, which was adopted, "That the Committee of Revision be instructed to include some part of the metrical system in the list of official weights and measures."

Dr. Proctor, of Pennsylvania, offered a resolution, which was unanimously adopted, tendering the thanks of the Convention to the faculty of the National Medical College of the District of Columbia for the use of their building for the purposes of the Convention, which then adjourned *sine die.*

Progress of Medical Science.

A New Application of Compressed Oxygen.—Andrew H. Smith, M.D., of New York, writes:—The introduction of oxygen in cylinders under high pressure, to be used as a remedial agent, enables the physician who has one of these cylinders in his office to apply it in the treatment of throat and lung diseases in a manner which, I believe, has not been heretofore suggested.

By attaching one end of an india-rubber hose to the cylinder, and the other to any one of the different spray-producers, and opening the cock, a spray results which may be made much finer than can be produced with the hand-ball apparatus, and that without the fatigue which the use of the hand-ball occasions. At the same time the operator has one hand free, a consideration which is sometimes very important. With a tongue-depressor in one hand, and the apparatus in the other, it is easy to direct the spray with great precision upon any desired point in the throat or posterior nares.

It is well to use a Richardson's spray-producer, and to have a small hole ground in the bottle near the top, and where it can easily be covered by the index-finger. When the hole is open no spray is formed, but when the point of the tube is exactly in the required position the finger applied to the aperture will at once set the apparatus in action.

The amount of gas required to produce the spray for a considerable time is too trifling to be taken into account. There is scarcely any conceivable case in which the inhalation of the small amount of oxygen escaping through the apparatus would not be rather beneficial to the patient than the reverse.

The local effect of the gas upon an inflamed or congested membrane is gently stimulating.

Demarquay has shown that in passive congestion it gives tone to the vessels and enables them to contract and expel the excess of blood which they contain.

As the spray formed in this way contains oxygen in solution, in addition to what escapes in a free state, its local action is more decided than when gas alone is inhaled.

New Method of Transfusion of Blood.—Dr. Gesellus, a physician of St. Petersburg, says *La Santé Publique*, employs the blood of the cutaneous capillaries for transfusion, rejecting the use of defibrinated blood and venous blood. For this purpose he employs a little apparatus, composed of a very thin cupping-glass; a scarificator with nineteen small blades arranged in five rows, and exposed by pressure upon a button; a small pneumatic pump situated at the superior and lateral portion of the apparatus; a glass transfusion tube hermetically connected at the base of the same apparatus, and capable of containing five ounces of blood, the tube terminating in a small trocar for opening the vein. Cupping glass and tube are enveloped in a jacket of caoutchouc, which, filled with water at 35° C., prevents the coagulation of the blood. The cupping-glass being placed upon the back of the individual from whom the blood is to be taken, and the tube, well closed, falling perpendicularly below, it is kept in position with the left hand, while the right hand produces the vacuum by working the piston. As soon as the individual experiences a painful sensation, a stroke of the palm of the hand upon the button of the scarificator, plunges the blades into the skin and the blood flows. The tube being filled, the stopcock near the trocar is opened, and the trocar being plunged into the median cephalic or basilic vein of the invalid, the blood enters by force of gravity into the vessel. A turn of the stopcock interrupts the operation. A graduated scale upon the glass of the tube indicates at each instant the quantity of blood injected.

Position of the Soft Palate after Death by Hanging.—Prof. Ecker contributes to Virchow's *Archives* (49 Bd., 2 Hef., 1870) an account of a case in which he found the soft palate filling the upper cavity of the pharynx and closing the posterior nares completely.

Aphasia following Scarlatina.—At a recent meeting of the Berliner Medicinische Gesellschaft, Dr. Eulenburg exhibited an eight-year old boy, afflicted with true aphasia, consequent upon an attack of scarlatina. The boy was intelligent, and understood whatever was said to him, but was only able to utter two monosyllables, "ach" and "ya," the latter with a broad accent somewhat like "hier." The word "ach" he used for "nein." The trouble was supposed to be the result of uræmic intoxication from nephritis which had developed cerebral œdema with compression of the cerebral capillaries; and the prognosis as to recovery was unfavorable.—*Allg. Med. Cent. Zeit.*, p. 1055.

Benzine in Whooping-Cough.—Dr. Bottari (Lo Sperimentale. *Gazz. Med. Ital.-Lomb.*, No. 45, 1869) recommends benzine as the best remedy in whooping-cough. It is administered in doses of from 10 to 20 drops in mucilage or syrup, with or without the simultaneous inhalation of the same remedy.

On the Exhalation of Organic Matters from the Lungs.—Dr. Cavagnis reports (*Gazz. Med. Ital.-Lombardiana*, No. 26) the results of some experiments instituted under the supervision of Prof. Mantegazza.

The expired air of healthy and diseased people contains a very slight amount of organic matter soluble in water, which is precipitated by permanganate of

potassa and blackened by sulphuric acid. The quantity varies from hour to hour even in healthy individuals.

The expired air of many healthy people, and also of typhus patients, tuberculous patients in the third stage, and patients with intermittent fever, contains neither basteriæ, vibriones, nor any other organized bodies. Fever patients exhale more organic matters than healthy persons, and tuberculous patients in the third stage more than miasmatic patients. The organic matters exhaled in 300 expirations of a healthy young man, or from 10 expirations of 30 young men, may be injected into the cellular tissue of the blood of dogs without injuring their health.

Late Fecundity.—The *Journal de Toulouse* records that Madame X., of Lavaur, aged 60 years, was recently delivered of twins.

Gastric Juice as an Application to Ulcers.—Dr. Pietro Pagello communicates (*Gazz. Med. Ital.-Lomb.*, No. 29) two new observations on the usefulness of the gastric juice of the dog. The first was a miserably nurtured two-year old boy, from the left side of whose sternum an erectile tumor the size of an apple had been removed by ligature. The granulations which appeared on the ulcer were not affected by nitrate of silver, alum, acetate of lead, or the hot iron; but after three applications of the gastric juice it began to heal, and healed without producing any pain, such as attends the use of caustics.

The second case was an obstinate syphilitic ulcer of the glans, which resisted the ordinary outward and inward anti-syphilitic remedies, but took on healthy granulations after the third application, and cicatrized within eight days after the commencement of the treatment.

A Compound Anæsthetic.—C. Sauer, dentist, in Berlin, has lately been employing with success an anæsthetic mixture of nitrous oxide, chloroform, and atmospheric air.—*Allg. Med. Cent. Zeit.*, 72.

Chloride of Lime to Epithelial Cancer.—Dr. Magni relates (*Gazz. delle Cliniche—Gazz. Med. Ital.-Lombard.*, No. 23) three cases of epithelial cancer of the face cured by the external application, several times a day, of a solution of chloride of lime, 1 part to 15 of water; and internally a solution containing about 7 grains in 180 parts of water.

The Scelometer.—It frequently being a matter of considerable importance to distinguish the exact amount of shortening in a given case of fracture, Dr. H. Z. Gill has devised and described (*St. Louis Med. and Surg. Journal*) an instrument for this purpose. It is in the form of a cross. The long arm is from three to three and a half feet, and the cross piece about thirteen inches long. The instrument is divided so as to be a measurer, the lower portion of the long arm being marked off into inches, half and quarter inches. A round-headed screw is placed in the long arm near the cross piece, to which a tape measure is to be attached to make measurements to various points. The instrument is applied by placing the horizontal piece against the anterior inferior spinous processes, so that the perpendicular shall be exactly equally distant from each spinous process. The feet being placed some distance apart, the perpendicular can fall between them, while the horizontal is retained exactly against the processes. The feet are brought together. If one touch at a point higher up or lower down than natural, there must be shortening or lengthening. The instrument permits measurements upon different points of the pelvis or limbs.

Turpentine in Diseases of the Skin.—Profs. Locke and Von Erlach prefer turpentine in herpes tonsurans and mentagra. Cases are reported in which a rapid cure was brought about by brushing oil of turpentine over the diseased surfaces. Locke reports seven cases of surgical erysipelas thus cured in three days; the disease disappears rapidly, and there is an immediate fall in the temperature of the body. He thinks the turpentine destroys the septic material at the inflamed surface.—*Physician and Pharmaceutist.*

Case of Doubtful Diagnosis of Presentation in Cases of Labor.—Dr. Goodell reported a case of labor (*Trans. of the Coll. of Phys., Phila.*). The child was a male, the mother a healthy primipara, and the labor normal; position L.A.A. At an early stage of the labor the liq. amnii dribbled away, but so green in color as to lead to a suspicion of a breech presentation. After birth this green fluid was found to proceed from the child's mouth, whence it continued to ooze for five days. Taking hardly any nourishment, the infant lingered for three weeks in a state of rigid episthotonus, and died a loathsome mass of ulcers.

Stricture of the Rectum.—Mr. Nunn has long been convinced that non-malignant strictures of the rectum are mostly syphilitic. He is inclined to attribute this to catarrh of the rectum, just as stricture of the urethra follows gleet. Almost all patients with non-malignant rectal stricture are females. Mr. Paget, in describing the chief features of syphilitic disease of the rectum, notices the cutaneous growths about the anus, almost always seen with it. These are growths from the skin, smooth, and flattened from side to side by mutual apposition. A thickened and indurated condition of the lower part of the rectum is met with, with ulceration of its mucous membrane, and a narrow stricture sometimes exists about 1½" from the anus. In cancer the anus is free from disease, in syphilis never; in syphilis the ulceration comes quite down to the anus. Iodide of potassium is of little good; mercury, cautiously administered, is often beneficial. The stricture should be incised and bougies used diligently, but very cautiously.—*Med. Press and Circular.*

Uterine Injection in Premature Labor.—Dr. Garraway, England, in a lady with narrowing of the pelvis, induced labor at 7½ months by passing in a silver catheter between the cervix and membranes, and injecting a pint and a half of warm water. In six hours the head was in the perineum.

How Pus is Formed.—We gather from a long report, lately presented to the Academy of Medicine of Paris by M. Vulpian, that much reliance may be placed on the theory of Cohnheim. It will be remembered that the latter maintains that pus-globules are simply extravasated leucocytes of the blood. M. Vulpian and M. Hayem carried on experiments in pericarditis, encephalitis, myositis, anal fistula, in cases of small-pox, &c., and they conclude that Cohnheim's theory is worthy of great attention.—*Lancet.*

Counter-Irritation in Eye Disease.—Dr. Furneaux Jordan says that counter-irritation is the great remedy for inflammatory disease of the eye. As a rule, gonorrhœal or purulent ophthalmia or ophthalmia neonatorum may be checked instantaneously by a broad horse-shoe of smart counter-irritation to the forehead, temple, and cheek; and acetum lyttæ, arg. nit., or iodine, may be used. The treatment is much more certain and rapid than any nitrate of silver treatment, however carefully conducted.—*Lancet.*

Treatment of Orchitis.—Dr. Besnier, of Paris, says that he uses cloths saturated in concentrated infusion of digitalis leaves in orchitis, with good effect.

THE MEDICAL RECORD.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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New York, May 16, 1870.

THE AMERICAN MEDICAL ASSOCIATION.

THE late meeting of this Association in Washington was one of the largest that has ever been held. We regret to say that it was not in other respects one of the most satisfactory. The work before the Association during its brief annual sessions is very considerable, and that work cannot possibly be done well if there is any waste of time in profitless discussion. At the recent meeting the time was almost monopolized by questions relating to the admission of delegates from the District of Columbia. These questions were of a local and personal character, and when once the gentlemen interested were allowed to make verbal explanations, there was so much ground to go over, so much accusation and so much denial, that the question occupied about nine-tenths of the time and attention of the Association. We are far from underrating the importance to the individual of his professional character, or the injury that might be done him by an unjust exclusion from membership in the Association; but if the Association were to resolve itself into a committee of the whole on every case of doubtful credentials, there would evidently be an end to all other business. The committees in such cases should be so fully informed that the Association could judge of the facts without personal explanations by the parties accused. In the case of which we speak, nothing whatever was accomplished by the tedious discussion indulged in. The reasons given by the committee for their opinion settled the question at last, so far as it was settled at all, but that was not until the hour of adjournment had arrived. In the meantime the impression made upon the public was one anything but favorable to the dignity of the profession. An assembly of representative medical men should of all others be characterized by harmony and deliberation; and we cannot but regret the warmth of feeling manifested by some of the gentlemen interested in the discussion referred to. The prevalent idea that the question hinged entirely on the admission of the negro to membership is a serious error. The negro was the original cause of dissatisfaction in the Washington Society; but it was the subsequent conduct of the dissatisfied members that, in the opinion of the majority of the committee, rendered those members inadmissible to the Association. One result of the unfortunate affair was the repeal of the by-law designating Washington as the place of meeting every alternate year. This, from the present stand-point, is probably well, for should the Association meet there again, within two years, there would very likely be a repetition of the same scenes that marred the pleasure of the recent meeting, and rendered it comparatively barren of good results.

Apart from the local troubles referred to, the utmost good feeling prevailed among the members, and not even the resolution concerning race and color called forth the least manifestation of a sectional spirit. This augurs well for the future; and the next meeting, on the shores of the Pacific, will mark a new era in the history of the Association.

The actual business transacted by the Association was not very great. Many important subjects came up for a few moments, and were put aside to make room for reports or discussions on ethics or credentials. A motion to regulate the fees charged by medical colleges, making one hundred dollars the minimum fee for a full course of lectures, gave rise to a somewhat animated discussion. This is a point on which the Association clearly cannot interfere, whatever it may be able to do towards elevating the standard of requirements. The schools, however, will not recognize the infallibility of the Association. The question of a national college of medicine was brought up, but its discussion was deferred to another year.

A highly interesting paper on veterinary colleges had been prepared in committee, giving valuable statistics in regard to the lower animals and their diseases. Dr. Antisell was interrupted during the reading of this paper, which was at last referred to a committee. It is matter of regret that no time could be spared for the consideration of a subject of such vast and general interest, and one hitherto almost entirely neglected by the profession.

The adoption of a resolution in favor of establishing chairs of psychology in the various medical schools will, it is to be hoped, cause more attention to be devoted to that branch of medicine. In this connection we may refer to the full and admirable report presented on the treatment of the insane, to which, for want of space, we are unable to do justice in our sketch of the proceedings.

The report of the Committee on Nomenclature of Diseases deserves special attention. They have carefully examined the British system, and are of opinion that a system better adapted to the wants of the American physician could be prepared by a committee for that purpose. It is desirable that nothing be done hastily in this matter. It will only add to existing difficulties if an incomplete nomenclature is urged on the profession; and the committee very wisely recommend that,

before adoption by the Association, the proposed system should be submitted to the practitioners of the United States for their approval, and in order that they may make corrections or suggestions as to its improvement. It is certainly much to be desired that we should have a uniform nomenclature, and if it were possible to have it uniform in this country and Europe, it would be so much the better. Thus far, we believe, the so-called British system has been adopted only in England, and not even in other parts of Great Britain.

The entertainments given in the evenings by the President, the Surgeon-General, and the Mayor of Washington, tended very materially to make the time pass pleasantly, and to promote that fraternal and social feeling which it is one of the objects of the Association to encourage and develop.

Reviews and Notices of Books.

A Hand-Book of Operative Surgery, with fifty-four steel plates and numerous illustrations on wood. By John H. Packard, M.D. Philadelphia: J. B. Lippincott & Co., 1870.

The object of this hand-book is simply to furnish clear and concise directions for the performance of all ordinary surgical operations. The author announces in the preface that there is no room for the discussion of symptoms, diagnosis, or general treatment, except so far as they may influence the choice of operative measures. The work is essentially a practical one, and as such it will be found complete and satisfactory. Its distinguishing feature is abundant illustration, and in this respect it is unequalled by any hand-book with which we are acquainted, though the steel-plate engravings appear to be the same as those issued in Smith's work on Surgery, in two volumes. These engravings constitute the best part of the hand-book, and represent the various stages of the principal operations so clearly as to require little explanatory text. The descriptions, however, are all that could be desired; and to students, and practitioners who have not the frequent opportunity of witnessing practical surgery, the volume before us will prove of unquestionable value, while as a book of reference, especially in surgical emergencies, it will probably replace many of the incomplete hand-books that have preceded it. It would require a very large volume to convey the same amount of information without the aid of the beautiful engravings that render this little book so useful and attractive. The chapter on the eye and its appendages is particularly full and rich in illustration. The ligation of arteries is also treated of in a manner peculiarly lucid. Regarding such operations as lithotomy, amputation of the foot, &c., the different views of distinguished surgeons are described and illustrated, while the opinions of the author are expressed with becoming modesty and reserve.

Intra-Uterine Injections in Suppurative Endometritis.—M. Hervieux, physician to the Paris Maternity Hospital, has published (in the *Bulletin de Thérapeutique*, Feb. 15th, 1870) six cases of this complaint, in recently delivered women, treated by intra-uterine injections of camomile infusion, sharpened with liquor sodæ chlorinatæ. The double-current canula was used, and the result was extremely favorable in all the cases.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, April 13, 1870.

Dr. J. C. Hutchison, President, in the Chair.

(Continued from page 119.)

LOCALIZED HYDRO-PNEUMOTHORAX.

Dr. Janeway exhibited a specimen, taken from a male patient, 48 years of age, who died in the Charity Hospital, March —, 1870. He had been a patient in the hospital for three months previous to his death. Only a partial history of his case, as of the next, could be presented, owing to a loss of the record book of the division. Before coming to the hospital, Dr. McGay, of the house staff, informed Dr. J. that he had been suffering in the Penitentiary Hospital with cough, dyspnœa, and such prostration as to confine him to bed. A first examination of his chest, early in the winter, revealed marked retraction of the right side, with absence of expansive movement,—this retraction, by measurement, amounting to 1½ inch,—dulness on percussion, except at the apex (where cracked-pot sound existed), hollow breathing and gurgles at apex toward axillary region, and bronchial breathing and bronchophony, with large moist râles anteriorly and posteriorly on this side. The lower border of the liver was somewhat raised. Dr. J. did not at this time carefully examine the axillary region. The other lung presented nothing special. Three weeks previous to his death his attention was again called to him, as his breath had acquired a gangrenous odor and his sputa had become very offensive.

An examination now showed no alteration in the size of the right side, but at the apex and in upper part of axillary region he detected amphoric breathing and metallic tinkling, and on succussion a faint splashing sound. Posteriorly the bronchial breathing was still audible. The man at this time was very weak, expectoration and breath fetid, and the former moderately copious; his pulse was frequent and his face pale and earthy looking. The diagnosis had at first been fibrous induration of the right lung, with a large cavity at the apex. But when apparently these other phenomena developed, then it was considered that a small gangrenous cavity had given way, and produced a localized hydro-pneumothorax in the axillary region. The patient lived for three weeks and died finally of asthenia.

The autopsy showed the right lung and pleura (which were presented) in the following condition:—

The costal pleura was very much thickened, and adherent to the visceral layer anteriorly and posteriorly. The adherent portion, anteriorly, measures about two inches in width. In the axillary region there was a sac formed between lung and pleura which contained air, a thin bad-smelling purulent fluid, and several calcareous plates of large size, some of these adhering to the costal pleura, others being free in the sac. In the upper lobe of right lung there was a small, smooth, round opening, situated at its outer surface at about its middle. The lung being placed in water, bubbles of air could be forced through this opening by a bellows placed in the trachea.

The anterior portion of the right lung was retracted from the margin of the sternum, and its position occupied by the distended left lung. This portion of lung was compressed and somewhat indurated. The inter-infrascapular and part of scapular region were occupied by lung for a good part in a state of fibrous induration, and the pleural surfaces were firmly adherent.

The left wing of the diaphragm presented a calcareous plate three inches in diameter. There was no lesion of the other viscera.

CYST CONTAINING BLOODY SERUM FORMED UNDER THE CAPSULE OF THE KIDNEY.

This specimen was taken from a male patient, 35 years of age, admitted to the Charity Hospital, January —, 1870. When first admitted he presented the signs and symptoms of Bright's disease, swelling of limbs, etc. After a short time he recovered sufficiently to be up and around the ward. About ten days before his death, March 28th, he was attacked with pneumonia of the lower lobe of the left lung. "I had my attention called to him the day before his death. He had then dulness on percussion over the lower lobe of left lung, bronchial breathing and bronchophony over its upper half or two-thirds, and absence of respiratory murmur and vocal resonance below. These signs were not altered by change of position, and taken together with symptoms, showed plainly enough a pneumonia of the upper portion of the left lower lobe; but the point in diagnosis lay in regard to the condition of the lower part, to my mind—whether it were fluid in moderate amount or plugging of bronchi with consolidation.

"The abdomen was not examined at this time, and the record book being lost I cannot say that it had been previously.

"The autopsy showed hepatization of the upper part of the left lower lobe, the lower part being firmly bound down by old pleuritic adhesions, and somewhat compressed also by the elevation of the diaphragm by an abdominal tumor. The bronchi were pervious. On opening the abdomen a tumor the size of a fœtal head was discovered occupying the left lumbar and hypochondriac regions, and reaching anteriorly as far forward as the umbilicus. The spleen was pushed upwards and forwards, so as to occupy the left infra-axillary and mammary regions. The descending colon crossed the anterior and upper border of the tumor, and was somewhat constricted. The stomach had contracted such firm adhesions to the tumor by its lower border, that in separating them the wall of the sac was torn and a bloody serum escaped. Several knuckles of the small intestines were also quite firmly attached to it. On removal of the tumor it was found to be formed of a sac, whose wall was nothing more than the true capsule of the kidney greatly thickened, containing a large amount of bloody serum. The capsule of the kidney can be seen still adherent to the surface of the kidney by a few firm bands at the sides, but for the most part is separated from it. The surface of the kidney was white, but mottled of a red and yellow color by numerous deposits of pigment. This kidney, as its fellow, is a sample of the large white kidney, lay at the bottom of the cyst, and is moderately enlarged. It presented evidences of waxy degeneration, but the epithelium of the tubes was also evidently diseased. As regards the mode of origin of this cyst, it seems probable that a hemorrhage at first produced a partial separation of the capsule, and that subsequently an accumulation of serum increased the amount of separation. I regret that the fluid was not examined chemically. The ureter of this side was pervious.

"An examination of several works on pathological anatomy, etc., did not result in the discovery of a record of a similar lesion."

STATED MEETING, APRIL 27, 1870.

DR. J. C. HUTCHISON, PRESIDENT, in the Chair.

ULCERATION OF ŒSOPHAGUS.

DR. JANEWAY exhibited a specimen of ulceration of œsophagus, taken from the subject of a coroner's autopsy at Bellevue Hospital. He had been brought there on the 5th of April in a state of collapse, with emphysema of the cellular tissue of the neck, arms, face, and thorax. His breath smelt very strongly of whiskey. No history could be obtained from him, and he died one hour after his arrival. On a post-mortem examination, his brain and its membranes were found normal. The larynx and trachea were healthy. The mucous glands of the pharynx were enlarged.

The left pleural sac was nearly filled with a brownish fluid, on which floated numerous drops of oil, and in which were pieces of meat, potato skins, etc., having a strong odor of whiskey. The lung of this side was compressed. The right pleural sac contained a small amount of turbid serum and flocculi of lymph. The lung was normal, but the pleura of its lower lobe was coated by recent exudation.

The œsophagus at its upper portion presented a few follicular ulcerations. On the left side of its posterior surface was a rent $1\frac{3}{4}$ inch long, slightly involving the stomach at its lower end. The edges of the rent were mostly smooth. The direction was longitudinal. The posterior mediastinal tissue was of a brownish-black color, shreddy, and partly digested. This condition extended almost to the bifurcation of the trachea. In this tissue the stomach contents were found, and it had a strong odor of gastric juice. The pleura covering posterior mediastinum over eighth vertebra on the left side presented a ragged rent capable of admitting the ends of two or three fingers. On the right side the corresponding portion of pleura was in a sloughy condition.

The cellular tissue of the eyelids, neck, arms, and thorax were emphysematous. The stomach and other viscera were normal. There was an excoriated bruise on the back over each scapula, but no other marks of injury.

MYELOID DISEASE OF SUPERIOR MAXILLA—RECONSTRUCTION OF ORBIT.

DR. MASON exhibited the patient from whom he had removed the entire right superior maxillary bone for myeloid disease, the specimen having been presented at the meeting, Jan. 26 (vide MEDICAL RECORD, vol. v., p. 18). The parts had entirely healed, there were no evidences of reappearance of the disease, and a new bony floor to the orbit had formed from the periosteum, which had been purposely left in that locality.

SUDDEN DEATH FROM CARDIAC DISEASE.

DR. FINNELL presented some coroner's specimens, for which he was indebted to Dr. Joseph Cushman. The first was an hypertrophied heart, portion of the liver, and gall-bladder, removed from a gentleman fifty-two years of age. He had been for several years past a victim of asthma, and on returning home one evening complained of feeling very badly; but as this was by no means a very unusual occurrence with him, no particular anxiety was occasioned in his family. He retired at his usual time, and was found dead in his bed the following morning. At the coroner's inquest the heart was found hypertrophied, with thickening of the attached portion of the aortic valves. Both lungs were œdematous throughout. The kidneys and liver were fatty, and the gall-bladder was enlarged to three times its normal size, and contained two calculi, lodged

respectively at the neck and fundus. The viscus was filled with a quantity of clear and colorless mucus. The patient did not at any time complain of jaundice.

Dr. Sands was of the opinion that the cystic duct alone was obliterated, which condition of itself explained the absence of jaundice.

RUPTURE OF AN ANEURISM INTO LUNG TISSUE.

A second specimen by Dr. Finnell was an aneurism of the aorta removed from a woman aged 45. She applied for work at a residence in Fourth street, and while engaged in sweeping up-stairs complained to one of the workmen of feeling faint, and in the course of five minutes after dropped down dead. During this time she coughed up large quantities of blood. At the autopsy an aneurism of the aorta was discovered, which had burst, discharging its contents into the lung tissue. Granular kidneys and fatty liver were also found. It is perhaps unnecessary to state that the deceased was of intemperate habits.

EXTENSIVE PULMONARY APOPLEXY.

The third specimen was a portion of lung tissue taken from the body of a gentleman aged fifty-two, who died suddenly while taking a night-supper in a restaurant. The autopsy revealed an instance of extensive pulmonary apoplexy, involving at least one-half of the lung tissue. He was of full habit, and had always enjoyed reasonably good health. The head was not examined, although the suddenness of death was explained by the lesion referred to.

PERIMETRITIS, PERITONITIS, ETC.

Dr. Lewis Smith presented a specimen removed from a primipara who died in one of the public institutions about two months after confinement. There was nothing unusual as regards her labor, and she progressed favorably until the eighth day, when she was seized with chills, which were repeated in the course of the next ten or twelve days three or four times. These chills were accompanied with febrile exacerbations. There was no diagnosis made, as no local symptoms were at the time manifest, save perhaps vomiting, which came on early, and was more or less persistent. This latter symptom was explained by albuminous urine and hyaline casts. She continued in a feverish state, her pulse ranging from 112 to 120. Her general symptoms continued until forty-eight hours before her death, when symptoms of peritoneal inflammation suddenly developed themselves.

The thoracic organs were found, on post-mortem examination, in their normal condition. On opening the abdominal cavity peritoneal adhesions were evident everywhere, and a considerable amount of pus was found in the pelvic cavity. The disease originated in a pelvic abscess which was situated behind and a little to the right of the uterus, which had burst into the pelvic cavity. At first he thought the inflammation to have started in a perforation of the appendix vermiformis, but no obstruction in that tube was discoverable. The abscess involved the caput coli, the lower portion of the ileum, and also extended so as to press upon the rectum, and here there was found a very small opening through which pus could be made to escape on pressure. In his opinion it seemed as if the patient might have been saved if an examination had been made, a bulging of the gut discovered, and an opening made to give exit to the discharge. This was the second post-mortem examination that he had made within three months, that had occurred under similar conditions.

THE DURATION OF THE RED HEPATIZATION OF PNEUMONIA.

A second specimen exhibited by the same gentleman had a special interest in regard to the question of duration of the red hepatization. It consisted of the heart and lungs taken from a child who died at the age of twenty-two months, after suffering for a month with symptoms of pneumonia. One of the parents had died of phthisis; the child was considerably emaciated, and it was conjectured that the pneumonia was due to tubercles. On the 25th of March, about one month before the death of the little one, the attention of the physicians of the Nursery and Child's Hospital was directed to the case. The infant was discovered with an expiratory moan, and examination revealed the entire left lung involved in pneumonia.

The long continuance of this inflammation, as well as its extent, was a matter of interest. It is well known that in a child of that age pneumonia is almost always circumscribed and catarrhal, but when general, as was the case in question, it was croupous. The age would indicate its being catarrhal, and its extent croupous. For the determination of these respective conditions he desired the reference of the specimen to the Committee on Microscopy. The red hepatization, which was still unequivocally marked, had evidently existed as such for a full month.

THE CAUSE OF TUBERCULOSIS.

The third specimen was of more interest, as bearing upon the causation of tuberculosis, and was removed from a little girl ten years old. She had an inflammation, apparently of a scrofulous character, confined to the soft parts of the left thigh. From this pus escaped about ten days before death. No marked general symptoms showed themselves, save diarrhœa and a slight cough, which, by the by, was not noticed until within a few days of her death.

At the autopsy there were discovered recent tubercles in both lungs,—many of these were still gray, while others were in the second stage. It would be recollected that Niemeyer states that the cause of tuberculosis is a cheesy degeneration of the lung. In one place he states that in all cases tuberculosis is preceded by a cheesy degeneration of the lung tissue; but in another place he modifies the statement somewhat, to the effect that cheesy degeneration in other portions of the system gives rise to the same ultimate result. Certainly in the vast majority of cases of infants there is no cheesy degeneration of the lungs preceding tuberculosis, although this change in the bronchial and mesenteric glands is not unfrequently seen. In the case in question, Dr. Smith had examined for the cheesy degeneration, but could discover none even in the glands referred to, although it should be stated that the bronchial and mesenteric glands were crowded with blood.

He believed that recent experiments in Europe tended to establish the fact that tuberculosis might arise from other causes than cheesy degeneration of the glands; for example, confined pus in different localities of the body. In reference to this latter condition, the specimen presented might be a case in point.

The child had a decided umbilical hernia, through which a portion of intestine protruded, which was about seven feet above the ileo-cœcal valve.

TUMOR OF SUBMAXILLARY GLAND.

Dr. Sayre presented a tumor of the submaxillary gland removed by operation. He gave the history as follows:—

Theodore Smith, fifty-three years old, is of healthy parents. His grandfather had a cancer removed from

his underlip. In July, 1869, he had a pimple on the underlip, which was burned out by a "Cancer Doctor." The wound in the lip afterwards entirely healed. In November, 1869, observed a small hard tumor under the middle part, under left side of lower jaw; was movable when first discovered, and continued to be so until the middle of January. At present (April 26, 1870), about the size of a large almond, surrounding the lower jaw, in the region of the posterior submaxillary gland, and apparently attached to the bone. The finger passed inside the mouth, pressing upon the internal projection, gave an indistinct sensation of motion between the tumor and bone. April 26, 1870, assisted by Drs. Yale and Whitehead, I proceeded to remove the mass by an incision lining with ramus of the lower jaw. I found the tumor firmly attached to the periosteum around the lower jaw, extending up, inward, to the floor of the mouth, also very firmly attached to the submaxillary gland, which was removed with the tumor. The periosteum was denuded from the bone, at its inferior and inner border, about one inch and a half—the external lamina of the bone thus exposed was removed by the rougeur. Only one artery—digastricus—required ligature. Had consulted Dr. Wood, also Dr. Olcot, of Williamsburgh, both of whom advised its removal. The facial artery was lifted out of its bed, but was not injured.

The Society went into executive session.

Correspondence.

OPIUM-EATING AND HYPODERMIC INJECTION.

To the Editor of the Medical Record.

Sir—In your issue of March 15th I notice, in an article by Dr. J. H. Bill, on "A New Hypodermic Syringe," with a list of formulæ that may be used in this kind of medication, the following statement, viz.: "When long-continued use of morphia is required, the danger of the habit of opium-eating will be avoided if we inject the opiate." As I believe this opinion to be entirely a mistaken one, and calculated to lead to grave errors in practice, I call attention to the two following cases, which I doubt not are a fair sample of what will occur in others under similar circumstances:—

In December, 1869, Mr. G., æt. about 60 years, in returning by steamer from Europe, was attacked, after exposure to cold, with a severe sciatica, involving the whole of the left limb. From his report, during a tempestuous and protracted voyage, his suffering was extreme. I found him, on arrival, exhausted by severe pain and loss of sleep. Fifteen drops of Magendie's solution were hypodermically administered in the evening, giving him the only refreshing sleep he had had in two or more weeks. The injection was continued in gradually reduced doses about forty times within less than two months, at nearly the same time of day. We both noticed his craving for it, and the restlessness induced by the want of it when omitted, which was only feebly allayed by any substitute. It was only by a strong and persevering effort of the will that he could discontinue the treatment, which was rapidly growing into a settled habit.

The second case (not my own) is a very melancholy one. A gentleman, aged about 40 years, some months ago, having a painful affection about the ankle joint,—a combination of neuralgia and rheumatism as I understood,—was hypodermically treated with morphine by his physician a few times, and was told to repeat the process for himself, as he needed it to combat his sufferings. He has so availed himself of this advice that now he is a confirmed slave to the degrading habit of opium-taking, weak in body and mind. The leg and thigh of the affected side are so thickly studded with the scars of the innumerable punctures of the syringe that scarcely any healthy appearing integument can be seen. He cannot now forego the demand (as I am credibly informed) that his system day by day makes upon this drug, and is as perfectly enthralled by it as if he had been an opium-*eater*, instead of absorbing it through his cellular tissue for all this time. "Verbum sap."

Yours, &c.,

J. G. Sewall, M.D.

New York, No. 854 West 30th Street, May 3, 1870.

A VEHICLE FOR THE INTERNAL ADMINISTRATION OF CHLOROFORM.

To the Editor of the Medical Record.

Sir—The want has been felt by many physicians of a good vehicle for the internal administration of chloroform. Several formulæ have been devised to meet this, but none, that I have seen, do so perfectly. Some are of difficult preparation; others contain sulphuric ether, which is objectionable, and all contain too little chloroform for convenience.

I have lately been using a solution of chloroform in glycerine, which answers the purpose so completely as to leave little to be desired. By a little care in rubbing it up, one part of chloroform by bulk can be dissolved in three of glycerine. This solution is perfectly clear, is bland to the taste, and has but a slight odor of chloroform.

As glycerine is acceptable to almost every stomach, it admits of a wide range of application. It can be taken readily as it is, or can be diluted with water to any extent, without disturbing the solution. Curiously enough, the addition of water immediately increases the smell of chloroform without any precipitation of it. In preparing it, it is best to take one part of chloroform with two parts of the glycerine, add the chloroform very slowly, and rub up carefully. Then put it in a bottle, and let it stand 24 hours. A little chloroform will have deposited at the bottom. Separate this, and rub it up with the third part of glycerine, then mix it with the rest, and the solution is complete. No further separation will take place. Six fluid ounces of glycerine with two of chloroform will give seven of the solution, so that each fluid drachm contains about seventeen M. of chloroform.

From the faint odor of the prepared solution I judge that the glycerine protects it almost entirely from evaporation, although some slight loss may occur while preparing it, which it might be well to make allowance for.

I have used only Squibb's chloroform and a pure article of glycerine, and cannot say how inferior grades may answer.

Having used it in a large variety of cases with entire satisfaction, I can confidently recommend it to others.

Respectfully,

G. Willson Murdock, M.D.

Cold Spring, N. Y., April 30, 1870.

Lupus Treated by Galvano-Caustic.—Drs. White and Hodges, of Boston (*Boston Med. and Surg. Journal*), have successfully treated several cases of *lupus* by galvano-caustic. Dr. Hodges states that the quickness with which a galvanic cautery is got ready for action makes its use very advantageous in surgery.

Medical Items and News.

THE PROFESSIONAL INCOME OF THE LATE SIR ASTLEY COOPER.—This distinguished surgeon, the son of an English clergyman, when swaying the surgical sceptre of England, received in one single year £23,000 from his professional labors; and yet, during the first twelve months after he had settled down in London, and was working as a lecturer on anatomy and surgery, his receipts from private practice only amounted to five guineas.

SUB-INVOLUTION OF THE UTERUS.—The affection of the uterus known as sub-involution was first spoken of by Bailie and Hooper, in 1832. For the practical presentation of the subject we are indebted to Sir J. Y. Simpson.

INSANITY AMONG SOUTHERN WOMEN.—Miss Dix has come to the conclusion that snuff-dipping is the chief cause of insanity among Southern women. She obtained her information while on a tour among the Southern asylums and prisons.

JERSEY CITY CHARITY HOSPITAL.—The report for 1869 shows a total of 215 in-patients, and 543 out-patients.

PUNCTURING THE CHEST IN ACUTE PLEURISY.—Dr. Murchison says that the numerous observations recorded within the last twenty years by Bowditch, Trousseau, Begbie, Gairdner, etc., leave no doubt that, after the failure of therapeutic treatment, puncturing the chest may be safely and advantageously performed in the acute stage of pleurisy, before the effusion has become purulent—(1) when there are any signs of impending asphyxia; and (2) when liquid effusion, even in moderate amount, remains stationary for a week or two in the pleura. He punctures usually between the ninth and tenth ribs, in a line with the lower angle of the scapula. A small trocar is used.—*Med. Press & Circular.*

TREATMENT OF PURPURA.—Dr. Bauer (*Deutsche Klin.*) adds his testimony to that of Henoch, already given, as to the efficacy of secale cornutum against purpura. He employs it in substance 8 to 10 grains, from one to three times daily. Of course no action is exerted upon the blood already effused, but, according to Dr. Bauer, in from one to three days, or at latest after six days, no new spots of purpura are formed, as far as his experience and observation have shown him.

SAN FRANCISCO FEMALE HOSPITAL.—In the lying-in wards of this hospital, during the last eighteen months, there were 90 births, of which 53 were boys and 37 girls. Not a single death occurred, either to mother or child.

THE CLIMATE OF OREGON.—The editor of the *Oregon Medical and Surgical Journal* writes as follows concerning the climate of Oregon:—"Our exemption from the wild sweep of the tornado, which strikes terror to all hearts in its devastating course, should be proof enough that the equilibrium is beautifully preserved by our constant currents of air, ocean-cooled, or warm from the sunny south.

"A like exemption from the lightning's vivid flash and the rolling thunder should teach us that so great is the abundance of life-giving ozone furnished us ready for use, that we need not be pained by witnessing its manufacture." In concluding, he adds that ladies in Oregon "bear their age" better than in any other State in the Union—California, perhaps, excepted.

THE FIRST INSANE HOSPITALS IN THIS COUNTRY.—The first hospital for the insane was that connected with the Pennsylvania Hospital, founded 1751, and now under the care of Dr. Kirkbride. The next in order is that at Williamsburg, Va., opened September 14, 1773. In 1797, insane persons were admitted to the New York Hospital. This branch of the hospital is now known as the Bloomingdale Asylum, and was opened in 1821.

THE SUPPORT OF THE INSANE.—There are 47,000 insane in the United States, unprovided for, except at home; the cost of supporting whom, in asylums as expensive as those now existing, would be $12,000,000 annually.

THE FREQUENCY OF INSANITY.—According to a prominent writer in the *Journal of Psychological Medicine*, insanity occurs most frequently between 30 and 40 years of age, the order of frequency being between 30 and 40, 20 and 30, 50 and 60, above 60, between 10 and 20, and under 10. The hereditary forms are most frequent in youth, the non-hereditary in adult life.

CONGELATION OF PERSONS KILLED BY LIGHTNING.—Dr. Boudin was informed by Gen. Comte de Maistre that some Sardinian sailors killed by lightning in the Mediterranean presented all the signs of death by *freezing.*

EXTRACTUM CYNOGLOSSI, A SUBSTITUTE FOR WOORARA.—Prof. Didichin, of St. Petersburg (*The Druggists' Circular*), has prepared an extract from fresh hound's-tongue, which produces precisely the same effect as the *woorara* or the alkaloid *curarin* on the nervous system of the vertebrata. It is of great importance to find an excellent substitute, when the arrow-poison bears such an extravagant price.

REMOVING CHEMICAL STAINS FROM THE HANDS.—A writer in the *Chemical News* recommends, instead of cyanide of potassium,—which endangers health, and even imperils life,—the use of a concentrated solution of either the sulphate or chloride of zinc as a wash for stained hands, to which some acid is added at the same time. Since most of the salts of zinc are colorless, and soluble in water, the hands become soon quite clear. They should then be washed first with pure water, and next with soap and water.

A CASE OF RATTLESNAKE BITE CURED.—Prof. O. F. Potter, M.D., St. Louis, Mo. (*Buffalo Med. and Surg. Journal*), during an excursion in the summer, was stopped by a harvest hand, who had just been bitten by a prairie rattlesnake of large size. Having no medicines, he scarified the arm, and directed the man to suck the blood with his lips A dressing of moistened clay was applied, and loosely confined by a handkerchief. He next proposed to take him to a neighboring village, some eight or ten miles distant, to obtain means for further treatment. Before starting, the man complained that a stupor was creeping over him, and he ordered him to run half of the way, to overcome the drowsiness and produce perspiration. In the village the usual whiskey treatment was given, with ammonia, but he was surprised to find that a small quantity, comparatively, of the stimulant produced intoxication.

To conclude, the case yielded to treatment, and in a very short time he made a good recovery. The points of the case can be summed up as follows:—1st. The patient was severely bitten by a rattlesnake. 2d. He suffered from, and was completely affected by the poison. 3d. He had no treatment but the drawing of the blood and the clay poultice, for some two or three hours, except the violent exercise; and, 4th. When the whiskey was administered, usually borne in large quan-

tities, intoxication readily supervened, showing, to his mind, an elimination of the virus; and, 5th. A rapid and favorable recovery.

Coal-Gas Poisoning Producing Softening of the Brain.—The occurrence of cerebral hemorrhage and softening, after inhalation of the mixed gases arising from the combustion of coal, is noted by Th. Simon, of Hamburg.

New York Hospital Library.—The extensive and valuable Library of this institution has been removed to No. 13 West 11th Street, near Broadway, and will be open daily from 1½ P.M. to 3½ P.M., and on Monday, Wednesday, and Friday evenings, from 7½ to 9½ o'clock. The Library now numbers over 8,300 volumes; new and important works are added as they appear.

Hard-rubber Capillary Urethral Bougies.—Professor Gouley has recently had made by Mr. W. F. Ford, surgical cutler of this city, very fine filiform bougies, for the treatment of stricture of the urethra, of hard rubber (two-thirds of a millimetre in diameter), which are perfectly flexible, not fragile, and possess the advantage over those made of whalebone by not splitting longitudinally, and the spiral twist at the bladder end is maintained.

Death from the Bite of the Viper.—Dr. Viaud-Grand-Marais reports in *La Santé Publique* two cases of death from the bite of the viper, which occurred in June and July, 1869.

Phréniogénie.—Under this title M. Bernard Moulin has just issued an interesting volume of 300 pages, upon the various causes which might influence the product of conception.

Possible Duration of Pregnancy.—In the course of an action for damages for the seduction of a young woman, the question of the possibly protracted duration of gestation was raised. The alleged father had had no access to the mother of the child later than 301 days before its birth, and he naturally disputed his liability. Dr. Tanner deposed that the ordinary period was 270 to 280 days, but might be exceeded by two, three, or even four weeks. He thought there was no inconsistency in the present case (from April 15th to February 9th—that is, 301 days). He had not known any case himself in which the ordinary period had been exceeded by a week, but he had no doubt there were such cases. He had heard of such. Mr. James F. Clarke deposed that there were cases on record extending over more than 301 days. Sir James Simpson had recorded a case of 310 days. Dr. Barnes deposed that the ordinary period was 271 days. He had known cases of 280 and of 285 days. He thought it very improbable, but did not like to say it was impossible, for gestation to extend over 301 days. It was so improbable that he did not believe it. Dr. Tyler Smith said that the longest period of excess he had known was a fortnight. Dr. Reid—a most accurate observer—had recorded forty-three cases of protraction, the longest of which was 300 days. Dr. Smith considered that case as reliable as any doubtful case could be. The verdict was for the plaintiff; damages, £200.

Spontaneous Combustion.—In the last number of the *British and Foreign Medico-Chirurgical Review*, Dr. Alexander Ogston discusses the truth of spontaneous combustion in the human body. He says that his researches prove that there can be no doubt that the weight of authority is in favor of spontaneous ignition, or, at least, of increased combustibility—two modes of viewing the subject which have been generally combined under the title of spontaneous combustion, or empresmus. Of the fifty-four writers on the subject whom he has been able to discover, the opinions of thirty-five are contained in the sources to which he has had access. Of these thirty-five writers, five are entirely sceptical, viz., Drs. Caldwell, Casper, and Taylor, and the chemists Bischoff and Liebig; three believe in increased combustibility, viz., Dupuytren, Stillé, and Guy; while the remaining twenty-seven, including the illustrious names of Orfila, Paris, Breschet, Devergie, Gordon Smith, and others, believe in the spontaneous ignitability of the human body. One of the most prevalent theories entertained regarding spontaneous combustion has been that hydrogen or other gases were present in the connective tissue and cavities of the body, and that these gases could be ignited by the electrical condition of the body. The other opinion held has been, that alcohol was present in the blood and tissues to such an extent as to be combustible. Dr. Ogston concludes by stating that the recorded cases which can be looked upon as reliable countenance no such doctrine as spontaneous combustion, but point merely to increased combustibility on accidental ignition.

L'Union Médicale of the 15th of February contains an article from the pen of Dr. Bertholle, wherein full details are given of a case of spontaneous combustion. The subject of it was a woman, thirty-seven years old, who was addicted to alcoholic drinks. She was found in her room, with the viscera and some of the limbs consumed, the hair and clothes having escaped. The very minute description of the state in which the deceased was found shows that ignition could not have been communicated from without, and, to all appearance, this is an additional case to those already upon record.

Oxygen First Employed in Disease.—The first case in which oxygen was actually employed as a remedy was one reported by Calliens in 1783. In 1789, Beddoes, Professor of Chemistry at Oxford, published his book entitled "Considerations on the Factitious Airs." To him belongs the credit of being the first to approach the subject without a theory to sustain; and his labors did much toward establishing the true position of oxygen as a therapeutic agent.—*Dr. Andrew H. Smith's Prize Essay.*

New Ophthalmoscope.—Dr. Poncet, of Strasbourg, describes and depicts, in No. 17 of the *Gazette Médicale de Strasbourg*, what he calls his ophthalmoscope à chambre noire, or what we might call a camera ophthalmoscope, intended for the use of those who have not at hand the conveniences of a darkened room. It consists of a copper box composed of two cylinders superposed, one short and broad, and the other longer and narrower. Two covers close them above and below. The lower cylinder has a groove exteriorly, by means of which can be attached a sort of hood of black silk, to be applied to the orbit. It is impossible to give a correct idea of this instrument without an illustration, and we therefore refer those interested to the original article.

Tobacco in England.—The *British Medical Journal* says: In spite of the loud outcry against smoking, made with so much energy a few years ago, and in spite also of the alarming facts which ophthalmic surgeons have recently offered us, the consumption of tobacco does not decrease. The returns show that, during the year just ended, the British population consumed tobacco at the rate of one pound and a third per head. During the last three years there has been each year a slight

increase. The quantity used in 1867 was 41,048,000 lbs.; in 1868, 41,280,000 lbs.; and in 1869 it had risen to 41,719,000 lbs. The increase is probably not greater than increase in population will explain. As regards the deleterious influence of the habit, we should like the attention of those who are investigating it to be directed to the differences in the kind of tobacco used. There appears good reason to believe that some kinds are much more injurious than others, and that the shag —the favorite of the English bar-room, and perhaps of English working-men in general—is the very worst. It is chiefly in reference to disorders of the nervous system—including, of course, all forms of nerve-amaurosis and nerve-deafness—that the problem must be worked out. Unless far greater evils can be proved against tobacco than any scientific evidence has yet hinted at, there is probably little reason to expect that the health argument can even weigh as a feather against the attractiveness of the habit.

Death from Creasote Applied to a Tooth.—*L'Imparziale* relates that a man aged 36 has lately died in the San Maria Nuova Hospital at Florence, from the results of the application of creasote to a carious tooth. Gingivalis and gangrene of the mouth appeared, and death from septicæmia took place in sixteen days. The relator of the fact mentions that, when young, the free application of creasote to a carious tooth which he had was followed by inflammation of the fauces and fever, by which he was confined to bed for three days. These local effects ascribed to creasote are remarkable. We are not aware that any similar cases have been described as occurring in this country.

Methylic Ether as a General Anæsthetic.—Dr. Richardson made a communication at the last meeting of the Medical Society on methylic ether as a rapidly acting general anæsthetic. The methylic ether is a gas, but it is absorbed in very large quantities by absolute ethylic ether, and in the fluid the methylic ether is held with fair stability. The ether is inhaled from a simple mouth-piece, and anæsthesia, sufficiently deep for a small operation, is induced, in some cases, within the minute. Neither symptoms of asphyxia nor of faintness have yet been observed; and one peculiar part of the phenomena of the anæsthesia is, that the operation, as of tooth-extraction, may be conducted painlessly, while the patient is capable of carrying out what seem to be perfectly conscious acts. During the past week several painless extractions of teeth have been performed under the influence of the ether, recovery from its effects being almost immediate, and unattended by vomiting or other disagreeable symptoms. —*British Medical Journal.*

Effects of Light on Vitality.—In a paper read before the French Academy of Sciences, Dr. Dubrunfaut has shown the effects of light on vegetable and animal life. The researches of MM. Gratiolet, Cloez, and Cailletet have, in a great measure, proved that the red rays of the luminous spectrum are those to which the important physiological function exercised by the sun on plants is to be attributed. The leaves act as analyzers of white light; they reject the green rays, which constitute the physical complement of red ones; and it is thus that the various hues under which the organs of vegetation are as seen by us, may be explained. If plants were exposed to green light only, it would be tantamount to their being in the dark. But this light, which the vegetable kingdom refuses, is what is coveted by the animal. Red, the complement of green, is that which, owing to the blood, tinges the skin of the healthy human subject, just as the green color of leaves is the complement of the one they absorb. All kinds of red should be proscribed for our furniture, except curtains. Our clothes, which, in point of fact, play the part of screens, should never be green; while this color, on the contrary, should predominate in our furniture, its complement being reserved for our raiment. In the same way the salubrious influence of woods and forests is a luminous and not a chemical effect. In support of this view Dr. Dubrunfaut mentions cases of patients whose broken constitutions were restored merely by long exposure to the sun, in gardens deprived of trees and other obstacles to light; he quotes the instance of four children that had become chlorotic by living in one of the streets of Paris, and who regained their health under the beneficial influence of the solar rays on a sandy sea-coast.—*Richmond and Louisville Medical Journal.*

Unusual Dislocation of the Head of the Humerus.—The following unusual case of dislocation of the head of the humerus was recently reported by Dr. Eve (*Med. Archives*) to the St. Louis Medical Society:—A lad, 13 years of age, had, about six weeks previously, fallen from an apple-tree and dislocated the head of the left humerus. A physician had attended the case, but the dislocation was still unrelieved. Upon examination the head of the bone was found projecting unusually forward and upward—about two inches in front of the glenoid cavity and three-quarters of an inch above the coracoid process. Ether was administered, and the reduction easily effected, but immediately upon relaxing the extending force the dislocation again occurred. This was repeatedly demonstrated. Dr. E. suspected that there must have been a rupture of the long head of the biceps—there certainly was not dislocation of the tendon—and he had given it as his opinion that the case was beyond remedy. It was the first of the kind he had met with in his extended experience.

Stone in the Bladder.—T. G. Richardson, M.D., Professor of Anatomy, University of Louisiana (clinical memoranda), believes that calculous disease occurs in the United States most commonly in Kentucky, Tennessee, West Virginia, Missouri, and the southern sections of Ohio and Indiana. Taking the boundary line of Kentucky and Tennessee as a starting-point, it progressively diminishes in a northerly or southerly direction. It is exceedingly rare in New England, and along the shores of the Gulf of Mexico it is scarcely more common. In looking over his own practice, he finds but two cases which originated in New Orleans. Although for some years a resident of Kentucky, where he had the opportunity of seeing a great many cases in the practice of his preceptor and personal friend, Professor Samuel D. Gross, M.D., he has never seen the disease in the negro, but is aware that it does occasionally occur in that race.

Syphilitic Inoculation in Dentistry.—J. S. Latimer, D.D.S., N. Y. (*The Dental Cosmos*), in a former communication to this enterprising journal, spoke of the danger of inoculating one patient with the disease of another, and besought dentists to practise great caution, taking care that each instrument which might possibly be contaminated with blood or pus, should be thoroughly cleansed after using.

Recently a very painful illustration of the effects of inoculation has come to his notice, and he deems it advisable to lay the facts before the dental profession, that they may be on their guard.

A dentist (who also practised medicine), resident in a small town in the State of New York, in operating for a patient suffering from a syphilitic difficulty, contracted the disease from absorption of the virus at a

point on one of his fingers where the skin was broken by a hang-nail. Not at first recognizing the disease, and being exceedingly careless with reference to his own health, he employed no appropriate remedies, and was soon unable to continue his practice. The disease progressed rapidly, until, at last accounts, he had suffered paralysis of one-half his body, and was likely to speedily "go the way of all the earth."

If the skin of a dentist's finger becomes broken, it should be covered with a film of collodion or caoutchouc. The "India-rubber" dissolved in bisulphide of carbon answers well for this purpose.

Operative Statistics.—Mr. Nunneley mentions that, in 111 cases of operation for strangulated hernia, 53 being inguinal and 54 femoral, 19 cases died out of the inguinal ones, and 17 out of the femoral cases. In 47 cases of perineal section, 5 died; in 112 lithotomy cases, 98 recovered and 14 died; in 38 cases of tapping for ovarian dropsy, 10 died; and in 25 cases where ovariotomy was performed, 13 died. Of 4 cases of recto-vaginal fistula, 3 failed; of 14 cases of tracheotomy and laryngotomy, 5 died. The tongue has been excised 8 times in Leeds Infirmary, with uniform success as far as the operation itself was concerned. The penis has been amputated 29 times for cancer, with one death, and the testis in 10 cases with two deaths. In 28 cases of operation for aneurism, 2 of the subclavian were fatal; 9 of the common carotid with 2 deaths; 17 for aneurism of external iliac, femoral, or popliteal, of which 9 recovered and 8 died; 23 cases of varicose veins were operated on by placing pins beneath them and twisting thread over them; all were cured. One death occurred from extirpation of the eyeball.

Waterproof Paper for Covering Jars.—Brush over the paper with boiled linseed oil, and suspend it over a line until dry.

Chloride of Gold.—The solution of chloride of gold of $\frac{1}{1000}$ has a remarkable action upon the pacinian corpuscles of the duck or goose, in making microscopical investigations.

Staphyloraphy.—Dr. J. Mason Warren has operated about 100 times. Prof. Mussey, of Cin., reports 4 operations, all on the soft palate. Seven are published by Prof. Goldsmith, now of Vermont. Prof. Hodgen, of St. Louis, and Prof. Miner, of Buffalo, each report three operations. Prof. Markoe, of N. Y., reports two operations, and Prof. Parker, of N. Y., four.

Cases of Plastic Surgery.—In the Leeds Infirmary, during the last 16 years, there were entered 172 cases of plastic surgery. Of these, none were on the lower extremity; 40 were on the upper, of which 32 were cured, 6 relieved, and 2 failed. Those were contractions of the axilla. Fifty were of the neck and face. Staphyloraphy was performed four times, two of the cases being cured, and two much improved. The remaining 77 cases were either of the cheeks, lips, or eyelids.

Eating Hair.—A woman, aged thirty, died lately in Lincolnshire, who had been under medical treatment for some time for a supposed tumor in the stomach. On a *post-mortem* examination a solid mass weighing nearly 2 lbs. was taken from the stomach. It formed a rough mould of that organ, and the termination of the œsophagus. It was found to be composed of human hair, and one of her sisters states deceased was in the habit of swallowing her own hair. It is not often such a case is met with, but in veterinary practice it is more common. We can recall but one or two instances. A horse dying from such a cause is within our experience, and a goat thus destroying itself has been mentioned to us by a friend.—*Med. Press and Circular.*

What Becomes of Old Shoes.—They are cut up in small pieces, and these are put for two days in chloride of sulphur, the effect of which is to make the leather very hard and brittle. When this is found to have been effected, the material is withdrawn from the action of the chloride of sulphur, washed with water, dried, ground to powder, and mixed with some substance which causes it to adhere together, for instance, shellac or any other resinous material, or else good glue or thick solution of gum; it is then pressed into moulds and shaped into combs, buttons, knife-handles, &c.—*Chemical News.*

Chinese Therapeutics.—The Chinese divide medicinal substances into heating, cooling, refreshing, and temperate. Their Materia Medica is contained in the work called the *Pen-taoscang-mou*, in 52 large volumes, with an atlas of plates. Most of our medicines are known to them and prescribed, also mineral waters, with which the country abounds. They also have animal magnetizers, called *Cong-fou.*

They divide their prescriptions into seven categories, viz.:—1st, the Great Prescription; 2d, the Little Prescription; 3d, the Slow Prescription; 4th, Prompt, or Through-by-daylight Prescription; 5th, the Odd Prescription, for fools, madmen, hypochondriacs, and the hysterical; 6th, the Even Prescription, for the wise and good; and 7th, the Double Prescription, for those in the family way.

Each of these recipes is applied to particular cases, and the ingredients that compose them are weighed out with the most scrupulous accuracy.

The physician never pays a second visit unless sent for, and sometimes his services are no longer needed.

Causes of Sterility in the Female.—Joseph Kammerer, M.D., Physician to German Dispensary, in a paper "On the Pathological Conditions causing Sterility in the Female," remarks: Of the patients treated in private practice, 201 in number, 25 are put down as having afterwards given birth to full-grown children. About 100 were either subjected to no treatment, because they presented an unfavorable prognosis, or withdrew from treatment for some reason or other. About 25 are still under treatment at the present time. After deducting these 125, it will be seen that treatment was successful in 25 out of 75, or about one-third of the cases treated.

From this paper it appears that the most favorable prognosis for the treatment of the sterile condition is presented by those cases in which sterility is caused by flexion of the uterus, chiefly retroflexion, and catarrh of the uterine canal; not one case where extensive adhesions were present or lateral deviations existed is marked down as cured.

Magnesium Light.—Late scientific intelligence from Great Britain expresses the belief that magnesium, by new processes of manufacture about to be introduced, will be brought down to a shilling an ounce retail.

At this price its use in lamps, in the shape of a ribbon of the thickness of heavy paper and a tenth of an inch wide, will be decidedly economical.

The magnesium ores and other compounds are unlimited. *Dolomite*, one of the commonest rocks in the Southern States, and extending in a vast range through New Jersey, New York, Western Massachusetts, and Vermont, into Canada, contains 45.65 parts of carbonate of magnesia and 54.35 of carbonate of lime.—*Gas Light Journal.*

A Large Man.—A German, measuring in his stockings 7 feet and 11 inches, resides in Wilmington, Delaware.

Cold Cream.—J. B. Moore, Philadelphia (the *Pharmacist*), recommends the following recipe as very superior:—

Take of Oil of sweet almond, 10½ fluid ounces,
Spermaceti, 3¾ troy ounces,
White wax, 10 drachms,
Otto of rose, 6 to 10 drops.

Melt together, by means of a water-bath, the oil, spermaceti, and wax, and strain through muslin, if necessary; stir constantly until it begins to thicken; then beat it well, and when it has become quite cool add the otto of rose, and continue the beating till the oil is thoroughly incorporated, and the ointment is of snowy whiteness.

Color of Vermilion.—Artists, and others, are aware that the beautiful color of vermilion (cinnabar, sulphide of mercury) has a tendency, especially if it has been mixed with white lead, to become blackish brown and very dark colored in a comparatively short time. This tendency of the vermilion is altogether obviated if, previous to being mixed with oil, it is thoroughly and intimately mingled with about one-eighth of flowers of sulphur.—*Druggists' Circular and Chemical Gazette.*

The Vision of Animals.—M. Paul Bert has recently been experimenting on this subject, and has published his results in Brown-Séquard's *Archives de Physiologie.* The method he adopted was to place a number of the little daphniæ, so common in our ponds and cisterns, into a small vessel the interior of which was well blackened, and into which light could only gain access through a narrow slit. The daphniæ distributed themselves tolerably equably through the darkened vessel, but on transmitting a ray of ordinary light through the fluid they immediately gave signs of agitation, and grouped themselves in and around the illuminated path of the ray. On interposing a screen they rapidly dispersed. M. Bert next proceeded to try the effects of variously colored rays; and he found that the same agitation and the same grouping occurred whatever might be the color of the ray transmitted. At the suggestion of Dr. Krishaber, he transmitted several separate beams of different color through the same vessel, and found then that the animals collected chiefly in the yellow, green, and in that portion of the spectrum which was slightly tinted of an orange color. A considerable number were also seen in the red ray, fewer in the blue, and less and less numbers in the violet and ultra violet. From these and other experiments, M. Bert concludes that all animals see the rays of the spectrum as we see them; that they do not perceive any rays that are not perceptible to ourselves; and, lastly, that in the range of vision the difference between the illuminating powers of the differently colored rays is the same for them as it is for us.—*Lancet.*

Punishment to London Bakers in Olden Times.—Dr. Letheby, in one of his lectures on "Digestibilities of Food," gives the following extract from the records of old London, with reference to the adulteration of food by bakers: "If any default shall be found in the bread of a baker in the city, the first time let him be drawn upon a hurdle from the Guildhall to his own house, through the great streets which are most dirty, with the faulty loaf hanging from his neck; if a second time he shall be found committing the same offence, let him be drawn from the Guildhall through the great street of Cheepe, in manner aforesaid, to the pillory, and remain there at least one hour in the day; and the third time that such default should be found, he shall be drawn, and the oven shall be pulled down, and the baker made to forswear the trade within the city forever."

It further tells us that William de Stratford suffered this punishment for selling bread of short weight, and John de Strode for making bread of filth and cobwebs.

Sulphate of Copper in Bread.—This substance is used by bakers on the Continent of Europe, as it acts like alum in improving the appearance of bread.

The Doctrine of Non-Union in Cases of Intra-Capsular Fractures.—In the year 1830, and before that period, Sir Astley Cooper had taught the doctrine of non-union in cases of intra-capsular fractures, and it was generally accepted as an established principle at that time. The late Reuben D. Mussey, M.D., LL.D., carried a specimen to England which he believed showed the possibility of such union taking place. Sir Astley on first seeing it said: "This was never broken;" but on examining a section of the same specimen, remarked: "This does look a little more like it, to be sure, but I do not think the fracture was entirely within the capsular ligament." Mr. John Thompson, of Edinburgh, on seeing it, declared, "upon his troth and honor," that it had never been broken. This eminent surgeon, like the disputatious Massachusetts Scotchman, "always positive and sometimes right," was in this instance mistaken, as the principle advocated by Dr. Mussey is now established.

The First Recorded Instance of Tying Both Carotids Successfully.—There is still living in Hanover, N. H., a Mr. Jasen Pettee, who is a living monument of Dr. Reuben D. Mussey's pluck and skill as a surgeon. This man had a large ulcerated and bleeding fungoid on the vertex of his head, which threatened speedy death. Dr. M. tied both carotids, and the removal of the tumor followed in a few weeks. The recovery was perfect, and the case was, according to Prof. A. B. Crosby, the first recorded instance where both carotids were successfully tied. This operation gave Dr. M. great *éclat* both at home and abroad.

The First Recorded Removals of the Scapula and a Large Part of the Clavicle.—A. B. Crosby, M.D., Prof. of Surg. in Dartmouth Med. College, states that it is creditable to the surgery of New Hampshire that the first three operations on record for the removal of the scapula and a large part of the clavicle were done by New Hampshire men. The first of these was performed by his father, Prof. D. Crosby, and the other two by the late Dr. Twitchell, of Keene, and Dr. R. D. Mussey.

Electricity for Lessening Pain in Extracting Teeth.—Dr. Pallas, of Bordeaux (*Dublin Medical Press and Circular*), believing that the failure in the employment of electricity for extracting teeth has been caused by the irregular distribution of this agent, has invented an instrument which he considers will obviate this difficulty.

Genuine Farina Cologne.—Oil of lavender, 4 oz.; benzoin and oil of rosemary, of each 2 oz.; purified alcohol (95 per cent.), 9 gallons; dissolve the ingredients, and add, oil of neroli, oil of petit grains, and oil of lemon, 10½ oz.; oils of orange, limes, and bergamot, 20⅔ ounces; essence of rose geranium, 3 pints. Macerate 3 weeks, and bottle.—*Jour. of Applied Chemistry.*

BLISTERING PAPER.—White wax, 8 ounces; sweet oil, 4 ounces; spermaceti, 3 ounces; turpentine and powdered cantharides, of each 1 ounce; boil for two hours, with constant stirring, in 10 ounces of water; strain through flannel, and, while hot, spread it on paper.—*Jour. of Applied Chemistry.*

DR. LLOYD ROBERTS ON OVARIOTOMY.—Dr. L. Roberts, of Manchester, says that the chief points to be attended to in ovariotomy are: A very pure air in the room—a temperature of 64° Fahr.—a very sparing use of chloroform, methyline, or sulphuric ether; a small incision at first, enlarged if necessary; the incision down to the peritoneum to be made without a director. The first incision may reach to two inches above the pubes. Adhesions to bladder, liver, and intestines are dangerous in the order written, and are to be carefully dissected and bleeding vessels ligatured, cutting off ends of ligatures. The pedicle, when long, may be clamped or tied and returned into the abdomen, or the actual cautery used. Sponges should take away any clots in the cavity of the peritoneum, and silver wire is the best means of closing the wound by sutures, including the peritoneum in the suture; the wound to be supported with crossings of plaster. Patient takes little nourishment for 48 hours. Pain is controlled by opium suppositories. The bowels are to be relieved by an enema on the fifth day, and the catheter used every four hours for some days.

SKIN DISEASES.—Dr. McCall Anderson approves much of blisters in obstinate circumscribed eruptions over the part affected. He uses Smith's "emplastrum cantharadinis liquidum." It is often useful, he says, in lupus erythema and lupus non-exedens. It is the best remedy in alopecia areata, and in ringworm, or chronic eczema. He sometimes uses a solution of iodine and iodide of potassium in glycerine; half an ounce of each to one drachm of glycerine. He praises highly the solution of one drachm of caustic potash to two of water, painted over the surface in eczema. The patient rubs the skin afterwards with a piece of flannel dipped in water until a lather is produced. For ringworm he recommends Mr. Coster's combination of iodine and tar. Pure iodine, two drachms; oil of tar, one ounce; gradually mixed and applied locally. One application, he says, is often enough where the disease is recent. He advises, in ordinary cases of lupus, to penetrate through the lupous deposit by means of a pointed piece of lunar caustic until the healthy tissues beneath are reached. No dressing is required. He also uses the actual cautery in such cases, according to Mr. Hutchinson's plan. Dr. Lipp publishes in the *Arch. für Dermat. und Syph.*, No. 3, 1869, two cases of psoriasis and three of chronic eczema which were cured by hypodermic injections of arsenious acid. In the former the result of the injections was satisfactory, after the internal use of Fowler's solution had failed. The cases of eczema are not so conclusive, as other means besides the injections were used. In the first case of psoriasis eight grains of arsenious acid were injected in forty-eight days, and in the second four grains in thirty-eight days. The author gives minute details respecting the phenomena observed during the injections, and states that he does not mean to infer from so few cases the superiority of the injections over the internal use of arsenic; but he merely observes that in favor of the former he might mention—the certainty of absorption, the non-interference with the organs of digestion, the small doses used, and the short treatment.

GALEN.—This renowned medical man was born 130 years before Christ.

AMPUTATION OF THE RIGHT ARM AT THE SHOULDER JOINT, WITH EXCISION OF A PORTION OF THE SCAPULA, FOR NECROSIS.—Dr. W. H. Hess, Nebraska City, Neb. (*The Chicago Medical Journal*), recently performed an operation of this character on a soldier in the late war, who received a gunshot wound in the elbow joint, for which his arm was amputated at the time. A second amputation was performed two years and three months from the time of the first operation.

The diseased bone being all removed, the wound was well cleansed with a solution of carbolic acid, tents soaked in the same solution left in the cavity; the parts were brought together with the ordinary suture, and cold water dressings sparingly applied. The patient did well, and returned to his home, in Iowa, eight days after the operation. A solution of carbolic acid was injected in the wound every day for three weeks after, to favor healthy granulations. Carbolic acid is, in his opinion, one of the most valuable remedies we possess for diseased bone.

THE RELIABLE ANTIDOTES FOR BINIODIDE OF MERCURY.—The retiring President, J. T. Travers, M.R.C.S.L., in an "Address before the St. Clair and Sanilac County (Michigan) Medical Society," observes with regard to antidotals: "So far as my means of judging indicate, the employment of liquor potassa, solutions of carb. potassa extemporaneously prepared, lime-water followed immediately by bicarb. potassa, and the sulphide of ammonia or potassa, the latter being the better, followed by emetics or the stomach-pump, constitute our chief antidotes."

As albumen forms no precipitate with the biniodide, it is not an antidote, and should not be given.

ELIXIR OF CHLOROFORM.—The following *Elixir Chloroform* is recommended by the Pharmaceutical Association at Washington, D. C.:—

℞. Chloroform, tinct. opi., tinct. camph., ip. ammon. ar., āā. ℥ iss;
Oil of cinnamon, ♏ xx;
Brandy, ℥ ij.
M. S. Half a fluid drachm, more or less.

TO RENDER DECOMPOSED SYRUP OF IODIDE OF IRON CLEAR.—According to M. Jeannel, the addition of $\frac{1}{3000}$th part of tartaric acid renders syrup of iodide of iron clear when decomposed, and removes the inky taste.

WHITE-LEAD DRESSING IN SEVERE BURNS.—Dr. Edwards (*The Leavenworth Medical Herald*) was called to a young girl who was burned to a crisp over the hips, scapula, and posterior part of the arm; the parts below the hips to the knees were red and inflamed, and the space above the hips to the neck also severely burned. With a paint brush he painted the entire burnt surface with white lead and linseed oil. Half a drachm of svapnia was given every thirty minutes; pieces of a linen towel were applied over the entire surface, and saturated with lime-water and linseed oil; and in one hour and ten minutes after his arrival she was asleep. This with lint steeped in the latter preparation, and svapnia occasionally, was the entire treatment. He remarks, in conclusion, that there is no danger of absorption, as it is a physiological fact inflamed surfaces do not absorb.

POSITION OF THE FŒTUS IN UTERO.—An interesting paper was read before the Obstetrical Society of Boston, Feb. 12th, 1870, by B. E. Cotting, M.D., on "Position of the Fœtus in Utero," and from demonstrative evidence laid down the subjoined opinions: At all stages of development, the head lies at or towards the

uterine outlet; the ovum, so far as yet possible to make out, shows the same general position of the embryo; premature deliveries give normal presentations most frequently, if not as frequently as complete gestation. The fœtus lies, or tends to lie, in its mother in a position completely the reverse of that of the patient; and, so far as has been noticed and recorded from the beginning, as certainly at later periods, its face is turned opposite to its mother's face, feet opposite to feet, back opposite to back, abdomen opposite to abdomen, etc., —with a tendency, perhaps, to be cast off prematurely if exceptionally in any other position.

The First Greek Surgeons on Record.—Æsculapius and his two sons, Machaon and Podalirius, are the first recorded Greek surgeons. The father flourished about fifty years before the Trojan war.

Lithotomy First Performed.—The operation of lithotomy was done in Hippocrates' day. This distinguished surgeon died in his one hundred and first year.

New Test for Carbolic Acid.—Joseph M. Hirsh (*The Pharmaceutist*) states that minute quantities of carbolic acid may be detected in solution by adding a drop of the tincture of ferric chloride, when a purple coloration will be perceived. If the quantity present is large, a purple precipitate will be produced, which, upon the addition of glycerine, dissolves with an olive color.

A New Insect Poison.—M. Cloez, one of the gardeners of the Paris Museum, has discovered a complete annihilator for plant lice and other small insects. Take three and one-half ounces of quassia chips, and five drachms of stavesacre seed; boil these in seven pints of water until reduced to five. When the liquid is cool, strain it, and use with a watering-pot or syringe.

Herniotomy.—O. G. Selden, M.D., Shanesville, Ohio (*The Cincinnati Lancet and Observer*), in referring to the recognized standard works on *Herniotomy*, believes that most of the practical rules are correct, and the main difficulty is to properly apply them. Adhesions to the hernial sac are mostly found where the hernial omentum presents all the essential characters of schirrus, at or near the abdominal ring. After dividing the stricture and returning the intestine into the abdomen, it has been his invariable practice to enclose the pedicle of the mass of omentum in a stout ligature at or near the abdominal ring, and cut away the mass below the ligature. He has not seen colicky pains follow such a proceeding, as are recorded by a French author; and in no case was there the remotest symptom of peritonitis.

After giving his opinions and practice with reference to *strangulated hernia*, the two following rules are deduced: When the hernia omentum is much inflamed, or contused, or in a state approaching gangrene, as often happens from the application of undue force in attempts to reduce by taxis, the part should be left in the sac.

When the abdominal ring is much distended, and a large mass of omentum is found within it and the sac, and if the omentum be either in part or in whole hypertrophied, or indurated, without tissue degeneration, the whole may be safely returned into the abdomen.

In the thirty-six cases in which he has operated no anomaly has occurred.

Spiders' Silk.—A bar of iron 1 inch in diameter will sustain a weight of 28 tons; a bar of steel 50 tons, and, according to computation based upon the fact that a fibre only 1-4000 of an inch in diameter will sustain 54 grains, a bar of spiders' silk 1 inch in diameter would support a weight of 74 tons.—*Chemical News.*

Death of Sir James Y. Simpson.—It is with deep regret we have to announce the death, at the comparatively early age of fifty-nine, of Prof. James Young Simpson, one of the most distinguished physicians of the century. Prof. Simpson was born in Bathgate, Linlithgowshire, in 1811. He received his education at the University of Edinburgh, where, in 1832, he took the degree of M.D., closing his undergraduate course with great honor, his thesis before the examiners being a production of extraordinary ability. He began his professional career as assistant to the late Prof. Thomson, and in the course of his duties collected the materials for his "Obstetric Memoirs," afterwards published. In the year 1840 he was appointed Professor of Midwifery in the University of Edinburgh, succeeding Prof. Hamilton in that position. In the year 1847, Dr. Simpson first produced insensibility during accouchement by the use of sulphuric ether. During the same month this anæsthetic was applied by Dr. Morton in this country during the extraction of teeth. Dr. Simpson, after his discovery, devoted much attention to the demonstration of the safety of anæsthetics as employed in obstetrics, subsequently discovering the properties of chloroform, which he regarded as more manageable, and in other respects better than ether in midwifery practice. In 1849, Dr. Simpson was elected President of the Edinburgh Royal College of Physicians, in 1852 President of the Medico-Chirurgical Society, and in 1853 foreign associate of the French Academy of Medicine. In 1856 he received from the French Academy of Sciences the Monthyon prize of 2,000 francs "in consideration of his services to humanity by the introduction of anæsthetics into the practice of midwifery, and the discovery of the anæsthetic properties of chloroform." The professional writings of Dr. Simpson are numerous and widely known. Of his Obstetric Memoirs and Contributions an edition has been published in this country under the supervision of Dr. H R. Storer. His "Contributions to Obstetric Pathology," "Essays on Anæsthesia," and a "Treatise on Homeopathy," have also been republished in this country, with several memoirs relating to the history and antiquities of his profession. Dr. Simpson has done more for the reputation of the Edinburgh School of Medicine than any other one man. He possessed a marvellous natural capacity, with a vigorous constitution, which enabled him to do a vast amount of work. Apart from his official duties, Dr. Simpson had a larger private practice than any other physician in Edinburgh. In January, 1866, Dr. Simpson's distinguished services to humanity received public recognition from the Crown. He was created a baronet, and in the same year received the honorary degree of D.C.L. In 1867 he presided over the Health Department in the Social Science Congress at Belfast, but since that time has led a life of comparative retirement.

New Publications.

Books Received.

Obstetric Operations, Including the Treatment of Hæmorrhage. By Robert Barnes, M.D., London, F.R.C.P., etc. With Additions by Benj. F. Dawson, M.D. New York: D. Appleton & Co. 1870.

A Treatise on Diseases of the Eye, for the Use of General Practitioners. By H. C. Angell, M.D. Boston. 1870.

Talks to My Patients; Hints on Getting Well and Keeping Well. By R. B. Gleason, M.D. New York: Wood & H. Holbrook. 1870.

Original Lectures.

LECTURES

ON

THE PALSIES

AND

KINDRED DISORDERS OF THE NERVOUS SYSTEM.

By MEREDITH CLYMER, M.D.

Lecture I.

Histological and Physiological Summary.

Before beginning the study of those affections of the nervous system in which motility and sensibility are, singly or together, disordered, it may be well to briefly set forth a few leading points of the

MINUTE ANATOMY AND PHYSIOLOGY

of the cerebro-spinal axis. I must ask you to accept provisionally, as I have done, these statements of structure and function as necessary to a right understanding of the clinical facts which are to form the material of these lectures. Whatever additions or subtractions future investigators may make to them, I do not believe that these postulates will be materially disturbed, bottomed as they are on evidences, direct and indirect, which warrant their being taken as articles of anatomical and physiological faith.

The histologic elements of which the nervous system is built up are of two kinds: (*a*) the gray or vesicular, and (*b*) the white or fibrous. They contain protein compounds and phosphatic fats differently distributed in both kinds. The gray substance is gathered into masses and mingled with the white substance, as in the brain, spinal cord, and ganglia, forming the *nerve-centres*, where peripheral impressions are received, and power is generated and dispensed. The white substance, besides making a large part of those centres, is a chief, if not as was once held the only, element in the structure of the *nerves* or communicating agents which link the headships with the outlying organs. The vascularity of the gray substance is much greater than that of the white, and it contains more water, the proportions of solids to fluid being estimated at 12 per cent. in the gray, and at about 25 per cent. in the white substance.

The *gray* or *vesicular* substance, of a dark reddish-gray color, consists of the *ganglion-cells*, or *-corpuscles*, evolved out of nitrogenous protoplasm, aggregated into spheroidal masses. These corpuscles have every element of a true cell, as: a delicate investing membrane, a pale fine granular matter, a variable amount of pigment, and a spherical nucleus whose outline is more distinct than that of the cell-wall, having amongst its granules a brilliant nucleolus. They vary in shape, and are either originally developed as two distinct kinds, or they undergo progressive changes. The smallest, ovoid or rounded, with a regular uninterrupted contour (apolar), are most numerous in the sympathetic ganglia; the larger ones, of the brain and cord, are polygonal or *stellate*, and have one or more tail-like processes, and are hence called, respectively, *unipolar*, *bipolar*, or *multipolar*. These processes either intercommunicate with those of other cells, or become continuous with the core of the nerve-fibres (Fig. 1).

The *white* substance is made up of *nerve-fibres* or *-tubes*, which are of two kinds: the first kind, and which may be taken as the common type of nerve-tubes in

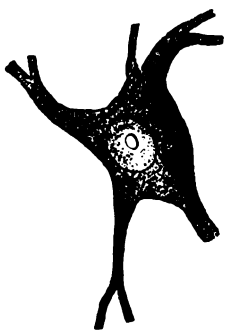

Fig. 1.—Multipolar nerve-cell from anterior horn of spinal cord, with processes, nucleus, and nucleolus.

Fig. 2.—Fresh nerve-fibre.

the cerebro-spinal system, seem, when perfectly fresh, to be clear, transparent, highly refractile threads, in which apparently there is no trace of structure. After a short exposure a change happens, a sort of coagulation taking place, and it appears that each little cylinder is composed of (1) a very delicate investing anhistous membrane, on which there are oval nuclei, within which is an (2) oleaginous matter called myelin, or medullary or white substance of Schwann, whilst in the centre there is (3) an albuminous round or flattened core, or thread, which is the *axis-cylinder* or primitive band. All those nerve-fibres show a double contour, (1) the outer line formed by the sheath, and (2) the inner by the curdled medullary substance, which, breaking up, as it were, into small masses, gives the beaded or varicose look which the fibres soon acquire (Figs. 2, 3).

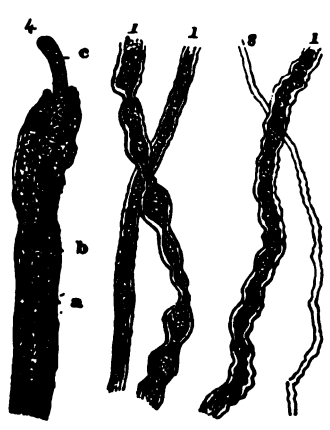

Fig. 3.—1, 1, 1. Double-contoured nerve-fibre of the large kind. 4. Fibre after treatment with chromic acid and carmine. *a*, envelope; *b*, white medullary matter of Schwann; *c*, axis-cylinder thread.

Fig. 4.—Fine nerve-fibre of single contour.

Professors Lister and Turner have shown an essential difference in chemical composition between this tiny protein central thread, and the pearly, viscid, oily pulp in which it is imbedded; and it will be well to bear in mind that in following what is called Dr. Lockhart Clarke's method of preparing nervous tissue for microscopic examination—and which, by the way, originated

with Jacobson, a well-known lithotritist of Copenhagen, and was carried from thence to Germany by Hannover (1840)—the axis cylinder of the nerve-fibre is unaffected by chromic acid, but is deeply stained by carmine; whilst the white substance of Schwann is made opaque, brown, and laminated by chromic acid, but takes no tint from the carmine. This enables an easy distinction to be made between the central and peripheral portions, a pale, dingy ring surrounding the bright-red carmine-colored point. The size of the nerve-tubes varies from the $\frac{1}{5000}$th to the $\frac{1}{800}$th of an inch in diameter in the trunks and branches of the nerves, whilst they gradually become smaller as they approach the brain and cord.

The fibres of the second kind, mingled in with the cerebro-spinal nerves, and a chief part of the trunk and branches of the sympathetic nerves, are much finer than the first; of a pale or grayish hue, they have a single contour, and their contents seem uniform. Their probable difference is the absence of the medullary sheath (Figs. 3, 8, and Fig. 4), and they are probably identical, histologically, with the axis-cylinder of the large tubes.

The nerve-fibres are gathered into bundles and lie in apposition with each other, but never unite; in the several anastomes which may happen there is no union, but simply interchange. On reaching their terminal points they split up, and the medullated fibres lose their white sheaths, and take on the characters of the smaller pale fibres. The connection between the nerve-fibres and the ganglionic cells is shown in this diagram (Fig. 5). The mode of connection be-

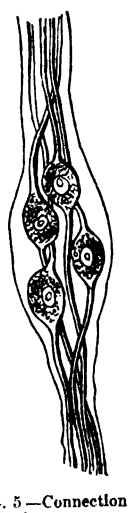

Fig. 5.—Connection of bipolar nerve-cells with nerve-fibres, showing one prolongation continuous with nerve-fibre from spinal cord, and the other with a peripheral nerve.

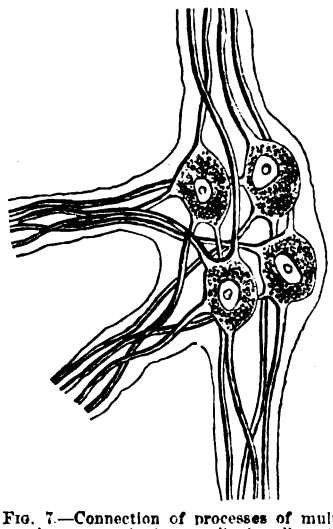

Fig. 7.—Connection of processes of multipolar sympathetic ganglionic-cells with nerve-fibres (after Leydig).

tween them and the nerve-corpuscles of the spinal cord in man is still unsettled, but in the lower animals their relations and course have been more successfully demonstrated, as seen in this diagram (Fig. 6). In the sympathetic ganglia most of the multipolar cells seem, according to Leydig, to send out the same number of processes as there are nerves connected with the ganglion (Fig. 7).

Now all the proper elementary structures of the nervous centres lie together in, or, more correctly speaking, are bound together by, a kind of connective tissue, which Kölliker called *reticulum* and Virchow *neuroglia*. In a thin section of the cord, prepared with chromic acid and carmine, it appears as a homo-

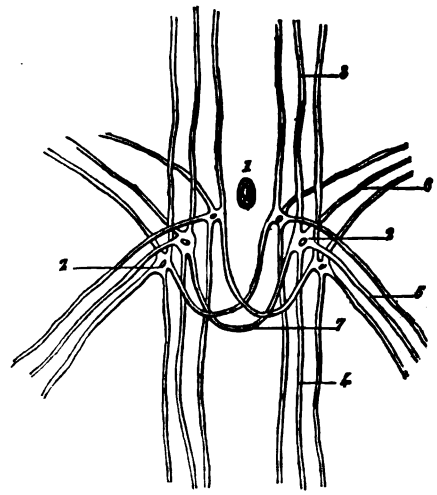

Fig. 6.—Connection between nerve-fibres and ganglion-cells in spinal cord of fishes (after Owsjanikow). 1, Central canal; 2, ganglionic cells; 3, superior prolongation; 4, inferior prolongation; 5, anterior root; 6, posterior root; 7, transverse commissural fibre making connection between the cells of the two sides of the cord.

geneous substance which seems to fill up, like a cement, the interspaces between the nerve-tubes. It is in still greater abundance in the gray substance. It is in excess, too, in the gelatinous substance around the expanded extremity of the posterior horns of the cord, and in the posterior commissure. It is important to recognize the existence of this connective frame-work or gangue, for it is specially interested in some of the lesions we shall have to consider.*

From these summary indications of the composition of the nervous system it would appear to be made up of threads enclosed in sheaths which shield them from lateral disturbance, and corpuscles of unstable matter embedded in protoplasm; the threads gathered into bundles are mostly the outer parts, while the corpuscles with their bed are chiefly the inner or central parts. The threads with their central corpuscle, or gray matter, form the unit of composition of the nervous system; and there are various groupings and combinations of these units.

Physiologically the nervous system is truly composed of three distinct centres, namely:—1st. The cranio-spinal apparatus, which comprehends the peripheral portion or nerves; the cord; the intercranial portion (medulla oblongata, pons varolii, tubercula quadrigemina, cerebral peduncles), and has as an appendage, the cerebellum; 2d. The cerebral apparatus proper, composed of the superimposed hemispheres; and 3d. The apparatus of conjunction, constituted by the optic thalami and the corpora striata. The union of the spinal and cerebral apparatus is mediate, through the interposition of the gray matter of the optic thalami and corpora striata. The anatomical facts which justify such a division have been clearly demonstrated, particularly by Luys (*Recherches sur le Système Nerveux.* Paris. 1865).

There are certain fundamental facts of function connected with these facts of structure that have an express clinical significance in the class of disorders we are treating of, and which cannot, therefore, be overlooked.

* Notes on the Physiology and Pathology of the Nervous System, with reference to Clinical Medicine. By Meredith Clymer, M.D. New York: D. Appleton & Co. 1870.

We may assume generally, as an organic law, that differentiation of structure involves differentiation of function. Now, each of the two substances which enter into the constitution of the nervous system—the gray or vesicular matter, and the white or fibrous—has its proper endowments and duties. The gray matter is creative, dynamic, and mandatory; the white matter is passive and executive. As has been happily said, the general truth may be stated, that nerve-matter is specialized into two kinds, of which one, collected into masses, has mainly the function of giving out molecular motion, though it still can to some extent conduct it; while the other, collected together in threads, has mainly the function of conducting molecular motion. Hence results a generalized idea of nervous functions, which, to again avail myself of Mr. Herbert Spencer's expressive terms, are divisible into *recipio-motor*, *libero-motor*, and *dirigo-motor*. Each afferent nerve is a recipio-motor agent, each efferent nerve is a dirigo-motor agent, whilst the nervous centres are composed of libero-motor elements along with elements which perform both the other functions.

But though the gray and white substances have in a general way distinct properties and duties, it would seem as if the differentiation was not absolute, and that the former shared the conducting properties of the latter. It has even been claimed that the gray substance is essentially the channel through which sensory impressions are conducted upwards; for if all the white columns of the cord are completely divided, but the gray core is uninjured, the sensibility of the parts below the section continues perfect or nearly so; whilst, however carefully the white columns are preserved from damage, if the gray substance be divided sensibility is almost totally abolished. Dr. Lockhart Clarke has shown that the larger portion of the posterior nerve-fibres cross the columns and enter the gray substance, and, passing up, cease to be distinctly traced; others pass through the gray substance, and, returning to the columns, pass upwards. And it is not improbable that these carry up the impressions received from peripheral impact.*

Among the notes left by John Hunter there is a record of a case of paraplegia, in which it is stated that when the patient was asked whether *he felt* the irritation by which the motions of his legs were excited, he replied, glancing at his limbs,—"No, sir; but you see *my legs* do." This will remind you of a conditioned physiological autonomy of the spinal cord, which is declared by certain automatic reflex phenomena. This endowment of the cord as an independent nerve-centre often becomes in the Palsies manifest to an extraordinary degree, an increased tendency to reflex movements being exhibited when the control of the brain is totally annihilated. And we shall see, too, in such cases that, as voluntary power is gradually regained, the susceptibility to involuntary movements will lessen both in extent and force. This diagram (Fig. 8) shows the ordinary course of a sensory impression going to the brain by the simplest and most direct route; but when there is a fault in the route, then the purely reflex action of the cord is exhibited, and the impression is transmitted by inter-communication.

The ordinary course of a sensory impression to the brain is through the ganglion-cell, *a*, and the commissural fibre, *a*, which crosses to the opposite half of the cord. In the event of this being divided, the impression is transmitted through an intermediate ganglion-cell, *b*, to a group of motor cells in the anterior horn, *c*, and is then transmitted through motor nerve, M, to the muscles of the same side. If the impression be still stronger, the muscles of the opposite side are called

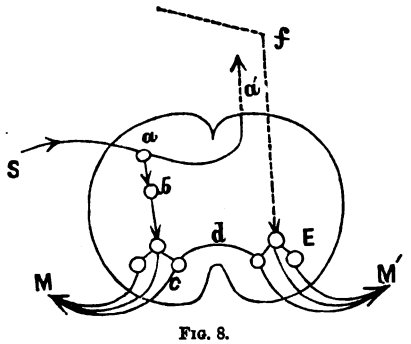

FIG. 8.

S. Sensory root. M. Motor root.

into reflex action through the communicating fibre, *d*. The group of motor cells may also be called into action by the voluntary nerve, *f*, which decussates at the lower part of the medulla oblongata.

Having called your attention to the importance of the full comprehension of this interesting subject in the exploration and appreciation of many of the disorders of the nervous system, I shall forego further details, except to refer briefly to several vital points in the laws formulated by Pflüger, and which have been confirmed by Schröder van der Kolk. 1. The reflection is unilateral; that is, it occurs on the same side as the impression when the induced reflex movements are limited to one side of the body. 2. But it may happen that the unilateral impression is not exhausted, and that it reaches secondarily the other half of the cord; in such a case the motor fibres consecutively excited always correspond to those which have received the first excitation, so that the group of muscles which contract, which secondarily contract, are the same as those on the side of the body primarily excited. 3. It may be that the determined reflex movements are of equal intensity on both sides; but if this is not the case, they are always strongest on the side to which the stimulus has been applied. 4. When the excito-motor influence does not extend beyond the disturbed sensory ganglion, or when in its irradiation from below upward it fails to reach the medulla oblongata, the reflex movements remain localized; but if it be propagated to the medulla oblongata the movements are generalized, for the medulla is the head-centre where the local inferior centres, concerned with nearly all the parts of the body, are brought into communication; it is the centre of irradiation of reflex movements, in order that all the muscles of the body may participate in such movements.

Before dismissing the subject I ought, however, to dwell for a moment on one other fundamental fact of function, whose practical bearing you will readily own when we come to consider the palsies individually. In 1840, Henle and Stilling showed that th muscular tissue of arteries responded in obedience to the impression conveyed to it by nerves, and according to its contraction and dilatation is a smaller or larger amount of blood allowed to pass. This office of the nervous system compels us to add, as an habitual element of its unit of composition in its completest form,—to the nervous arc, consisting of the afferent thread, the ganglion-corpuscle, and the issuing efferent thread, and the centripetal thread subordinating a lower and a higher centre,—a *vaso-motor* thread, an additional series of efferent nerves, running to that

* See A Lecture on some points in the Clinical History and Pathogeny of Locomotor Ataxy. By Meredith Clymer, M.D. MEDICAL RECORD, vol. iv., No. 28, 1870.

part of the body in which the two ends of the nervous arc lie, and which puts the blood-vessels in relation with the other portions of the apparatus. Exactly how this is done is in dispute, and to determine the relative share exercised by the sympathetic and the cerebro-spinal fibres in this duty is not a simple matter. I have no intention of discussing the problem of vaso-motor innervation, but I think the safest theory, the one most consistent with observed facts and with analogy, teaches the combined influences of the sympathetic and spinal fibres, each always liable to the influence of the other, there being actual functional antagonism between the two orders. This theory—that of moderator nerves, proposed in 1854 by Virchow—may be briefly stated: The blood-vessels receive two classes of nerves,—one belonging to the sympathetic, and the other to the cerebro-spinal, system. The office of the sympathetic fibres is to cause contraction of the vessels, whilst that of the cerebro-spinal fibres is to cause their dilatation. In a state of health these influences are compensatory and mutually moderating, and the result is vascular tonus. Should the spinal vaso-motors become abnormally excited, then their action is predominant, and the consequence is dilatation of the blood-vessels and increased body-heat. The same effect would happen were the sympathetic vaso-motory fibres paralyzed. If, on the contrary, the spinal fibres, the dilators, are disabled, then the sympathetic constrictors, freed from all restraint, will cause contraction of the vessels and a fall of temperature.

The general and local circulation is then regulated for its special needs by means of the influence exercised by the vaso-motor nerves on the blood-vessels. The peripheral circulation and the local body-heat present some curious phenomena in the palsies, which will be described in their proper places. I may, however, make here brief mention of the interesting observations of Dr. Lepine, of Paris, regarding the relative thermic variations in the sound and paralyzed limbs of persons suffering from unilateral palsy. He found that, when he placed the limbs of both sides under precisely similar conditions, noteworthy differences in their relative temperature happened. For example, when both limbs are rapidly cooled to the same degree in cases of recent hemiplegia, the affected limb, which should be the warmer one, will suffer a more rapid and greater fall of temperature. But if this reduction be carried beyond a certain point, then the relation is again disturbed, and the sound limbs lose most heat. In old hemiplegias, where the affected limb is the colder, this becomes relatively warmer to the sound one, when both are exposed to a low temperature. When both limbs are artificially warmed, the palsied limb will remain the colder as a general rule. Hence it would seem that the fluctuations of temperature in a limb whose vaso-motors are paralyzed are not so great as those in a sound limb where they are functionally whole. A possible explanation of these phenomena may be given by admitting that the action of the vaso-motor nerves, necessary for the sudden adaptation of the temperature to the surrounding media, takes place more slowly and less completely on the palsied side.

Some persons seem to possess a certain volitional power over the action of the vaso-motor nerves, by means of which they can, within given limits, influence the state of the peripheral circulation. A travelling mountebank exhibited a wonderful control over the hue of his face, becoming flushed or deadly pale as he pleased. I have now under observation a gentleman who, for seventeen years, has been able to produce at will contraction and roughness of the skin, with prominence of the papillæ, and erection of the hairs—cutis-anserina, or goose-flesh—with apparent loss of heat, and visible paleness of the surface. He says that after the volitional act a peculiar feeling seems to start from the upper cervical region, attended by a sensation at the præcordial region like that of sudden fear. In this case there must be a double influence exercised both on the nerve-fibres going to the organic muscular tissue in the interspaces between the basis of the papillæ of the cutis, and the vaso-motors.

Whatever autonomy the several nervous centres may possess and show in the various acts of organic life, when they come to take part in those functions which put man, made up of component fractions, into relation with himself as a whole, and with the external world, we find a mutual interdependence, a necessary blending and sharing of duties, which cannot be dissociated without causing a jangle in the working of the machine, expressed by functional troubles. The perfect sensory-motor cycle may be represented by two currents in opposite directions, separated by organs of reception and production. These currents or transmissions are, as we have seen, through the white substance, the incoming and outgoing fibres, the gray substance being the centres where reception and production have their seat. By these constituents molecular motion is given out and molecular motion is conveyed, and this naturally involves disintegration and reintegration—perpetual waste and renewal; and we shall see that some of the forms of the class of disorders that is going to occupy us would seem an outcome from this loss of balance between expenditure and production, and hence the ensuing disturbances may be styled qualitative and not quantitative, for they cannot be detected by the senses, even when aided by the acutest lenses. Besides, all the senses may for the time be shut by some fault in that impalpable act—nutrition; or by a flaw in the wholesome blood; or by some leperous distilment through the veins. All these may hinder function and yet leave no sign.

PHILADELPHIA STATISTICS.—From a "Report on Meteorology and Epidemics," by W. L. Wells, M.D., of Philadelphia (*Am. Jour. Med. Sciences*), the subjoined items are extracted: In 1869 there were reported at the Board of Health in Philadelphia 14,786 deaths. Taking the population at 800,000, this makes one death in 54, or 1.84 per cent. of the total population. The deaths among males amounted to 7,644; among females to 7,142. In 1869 there were 457 stillborn males, and only 332 stillborn females.

A NEW FEVER DISCOVERED.—Dr. J. C. Faget, of New Orleans, La., claims to have discovered a new kind of fever, which he designates as "Malarial Catarrhal Hemorrhagic Fever." This physician does not believe that creoles have yellow fever.—*N. O. Jour. of Medicine.*

COMMUNICATION BETWEEN THE HEPATIC DUCTS AND LYMPHATICS.—According to H. D. Schmidt, M.D., of New Orleans (*The N. O. Jour. of Med.*), Mr. Natilis Guillot is the only author who has asserted the existence of a natural communication between the hepatic ducts and lymphatics.

AUSTRIAN LIBERALITY.—The University of Vienna has decided to open its medical lectures and confer medical diplomas on women.

VACCINATION IN PARIS.—Two thousand persons went to one of the *mairies* in Paris for vaccination from the heifer in one morning last month.

Original Communications.

ANTERO-POSTERIOR SYMMETRY, WITH SPECIAL REFERENCE TO THE MUSCLES OF THE LIMBS.

By ELLIOTT COUES, A.M., M.D., Ph.D.,

ASSISTANT SURGEON, UNITED STATES' ARMY.

Article I.

PRELIMINARY—GENERAL PRINCIPLES, HYPOTHESES AND CONCLUSIONS—THREE SORTS OF SYMMETRY—MODIFICATION OF THE ARCHETYPE.

The attempt will be made in these articles to determine, as nearly as is possible in the present state of our knowledge, the corresponding muscles of the fore and hind limbs of man, and to identify them with each other upon an hypothesis of antero-posterior symmetry—this involving consideration of the operation of vital force as analogous to that of polar force, and of the result of the *nisus formativus* as ideally identical with that of polarity.* In this light, muscles of fore and hind extremities (as will appear in the sequel) are not 'homologous' in the general acceptation of that term; nor even 'serial homologues' in Owen's definition of that expression, which implies a different idea, viz.—similar parallel repetition instead of opposite reversed repetition and true symmetrical antagonism. This last is known, for either of the three possible poles of the body, as 'antitypy;' and for the poles of the longitudinal axis in particular, as 'longitypy.'

Says the most accomplished, as well as the most distinguished, anatomist † of this country—

"* * * if antero-posterior symmetry can be shown to exist in the bones, then we can feel some confidence, that whatever the difficulties at present may be with regard to the muscles, nerves, and vessels, they will sooner or later be overcome."—Convinced that it has been proven in respect of the bones—and largely by the labors of him who has just spoken—we indulge the hope of tracing it some way at least among the muscles. However we may grope in the dark—however we may fail to touch that truth which will ultimately be determined—surely any advance in the right direction is better than a stand-still; and even errors, when discovered, will become light-ships to warn others off the shoals on which we foundered.

For the basis of most studies in what is called, with a shade of derision, 'transcendental ‡ anatomy,' doubtless we are mainly indebted to Owen's elaboration, with surprising skill, care, and precision, of Carus' idea of a vertebrate archetype. Some of the determinations that will be made, rest upon the assumption, that Owen's theory of the vertebrate endo-skeleton is in the main correct. But this illustrious man did not adopt the idea of fore and hind symmetry; his 'homotypy' or 'serial homology' is not exactly what is meant by 'antitypy;' and it is in provision for the latter that his archetype is to be remodelled in one feature (see below). Wyman has indicated (*l. c.* p. 278) the required modification. To his important paper I am deeply indebted, both for a clearer understanding of the principles that I believe to underlie the whole subject, and for special determinations of antitypic bones upon which identification of particular muscles rests. Wilder * has investigated in the light of polarity with special reference to the muscles. To him I am also under obligations (particularly for ideas advanced regarding 'long,' 'short' etc., muscles), although I cannot endorse all of his identifications. Except to these authors, I have no acknowledgments to make, the determinations of muscles, whether coinciding or conflicting with the views of others, being in every instance the result of independent study. Meckel, Duvernoy, and other distinguished anatomists who have handled the muscular homologies, have done so from a different standpoint; and I have refrained from study of their work in this special field, believing that however much might thereby have been gained in some respects, it would have been more than counterbalanced by the unconscious bias of judgment that would have ensued; and preferring to take larger risk of going astray through want of some information that might have been obtained, in order that I might work up the subject anew.

In the present article are considered some of the general principles involved in the idea of longitudinal symmetry, as an hypothesis necessary for the recognition of the existence of muscular correlatives in the two limbs. In the next, the osseous basis of the muscular correspondences will be laid down; when we shall be prepared to take up the muscles in detail. I must presume throughout upon the reader's familiarity with the tools of thought peculiar to this department of knowledge, and with the notion of the vertebrate archetype: for to stop to explain either would be to swell the papers beyond reasonable limits.

The Vertebrate is the highest one of four types or plans upon which all animal organisms † are held to be constructed; the others are, descending in the scale, the Annulate, Saccate, and Radiate. The last named is typified by the *star;* organs are peripheral around one central axis or dynamic point, with no preponderance toward one pole; like a sphere, involving all dimensions, expressing none; its essence is called 'radiality,' for the morphologically identical, if teleologically diverse sphæromeres, radiate like wheel-spokes. The molluscous or saccate is typified by the *sac*, in which viscera are enclosed; principal nervous ganglia about the œsophagus; heart on outside of flexed intestine (*fide* Morse); its essence is called 'laterality;' development tends sideways, or to the poles of the transverse horizontal axis. The annulate or articulate is typified by the *ring*, of which there is a conjoined series, each segment holding a section of the digestive system between one of the nervous, ventrad, and of the vascular, dorsad; an arrangement modified at one end by encircling of œsophagus with a neural ring (*fide* Allen): its essence is held to be 'tergality' or 'verticality;' weight of organization tending to the poles of the transverse vertical axis. The vertebrate is typified by the *double-ring* (*sc.* 'a vertebra'); it is a succession of morphologically identical figures-of-8, forming a segmented series. In the single-ringed animal the embryo develops from the ventral aspect of the ovum; in the double-ringed, from the dorsal; in the latter, there is a notochord ‡; the neural axis, instead of being ventrad,

* Faraday's definition of polarity:—"An axis of power, having contrary forces exactly equal in opposite directions."

† Jeffries Wyman, "*On Symmetry and Homology in Limbs;*" Proc. Bost. Soc. Nat. Hist., June, 1867, p. 277.

‡ The word may be accepted as expressing the transcendent importance of the investigations that alone can bring order out of a chaotic mass of observed facts, and make a philosophy of anatomy possible.

* Burt G. Wilder, S. B., "*On Morphology and Teleology, especially in the Limbs of Mammalia.*" Mem. Bost. Soc. Nat. Hist., I. (Nov. 1865.)

† Except *Protozoa*, in which great group plans have not been satisfactorily determined.

‡ Yet, Kupffer's researches, corroborating Kowalersky's, regarding embryology of the invertebrate *Phallusia*, show certain vertebrate conditions. He confirms the existence of a notochord. "At this stage one could not imagine a more beautiful model of a vertebrate embryo, with the neural tube on one side of the axis, and a visceral tube on the other."—*Nature*, p. —. London, 1869.

or encircling any part of the alimentary tract, is dorsad, and fills the upper loop of the vertebra; the lower ring receives alimentary and circulatory apparatus (and special nerves). The essence of this plan is called 'longitudinality;' it is preponderance of organization along the longitudinal horizontal axis; or 'cephality'—actual exaltation both of organization and function at one of the poles of this axis; although theoretically the tendency of development is the same at either pole.

Thus each one of the three higher types appropriates to itself more particularly one of the three only possible perpendicular axes of extension of a solid. We cannot conceive of organisms taking special axes of development without conception of some sort of *symmetry* as the result of unfolding a plan of organization. Yet not absolutely perfect symmetry, which probably does not exist in nature, any more than does that abstraction called 'a straight line.' Crystallographers deny it, even; much less, then, is it to be expected when the perfect operation of polar force in distribution of matter is disturbed by overruling, adaptive life-force, the main office of which, morphologically speaking, is the modifying and diversifying of general means for special ends. Only the underlying idea, so to speak, is one of symmetry. Confining attention now to the double-ring plan, we have first to observe how it is obscured by cephalization, and then to discover what indications of what kinds of symmetry we may.

'Vertebral' means simply 'flexible;' but now we have the word for the fact that an organism so moulded, is composed of a succession of segments. These are held to be 'ideally' identical, and to be laid over against each other in the long axis of the body, by a sort of 'vegetative repetition,' until the requirements of an animal's eidolon are fulfilled. But here cephalization operates to make the animal what it is actually to become, by modifying simple superimposition of similar segments, and so obscuring the original idea. In diversifying segments, it masks them. At one end of the body, an individual double-ring expands and is distorted, for example, into a pair of parietals, parts of the sphenoid and temporal 'bones,' and the os hyoides; at the other, it shrinks into a stunted os coccygis; these are extremes of exaltation and degradation of development. A caudal vertebra is sometimes not so much like a dorsal, for instance, as it is like a phalangeal internode. In some longicaudate mammals, in which the neural canal is not continued through the caudal series of vertebræ,—in which zygapophyses and other processes disappear—these bones are not vertebræ at all to the physical eye; neither is the coccygeal 'vomer' of birds. They may be called *larval;* but not the less on this account are they vertebræ. None deny this. So, then, in the cranium, where—to continue the simile—the vertebræ are become neural *imagines;* not the less on this account are they true vertebræ. Disconnection of some of the parts of a vertebra, and their fusion with another, is allowed by none to weigh against considering such bone in its true light; *e. g.*, the atlas is certainly a vertebra, though it has only articulating surfaces in place of true zygapophyses, no hæmapophyses, and nothing but a hypapophysis instead of a centrum that takes shape and place as the 'odontoid process of the axis.' Similarly, the occipital segment is no less a vertebra, because its shape is further modified, and one half of it (the lower ring-hæmal arch) is carried away from the other (centrum and neural arch), and rests upon the thorax in the shape of 'scapular arch,' from which hangs an 'appendage' (*vuly.* "arm"). A dorsal vertebra is not only the 'bone' so named by anthropotomists, but includes its pair of pleurapophyses, pair of hæmapophyses (together=a pair of ribs), and its hæmal spine (=corresponding segment of sternum). In reasoning on these matters, the physical eye must sometimes be closed to give the mind's fair play; we treat of things *in posse* as well as *in esse;* we argue *de jure* as well as *de facto;* we dismiss the concrete for the abstract; or rather, we search for what of the latter must lie enwombed in the former. It must be evident without further illustration, that *shape*—mere moulding of contour of parts—goes for little or nothing; and that a vertebra is simply one individual transverse segment of a longitudinally segmented, double-barrelled body.

From another point of view, certain anthropotomical distinctions are seen to be wholly arbitrary. Running through the vertebrate series, 'neck,' 'chest,' 'sacrum,' etc., dissolve in each other. In the fish with pectoral limb attached to the occiput, how many vertebræ are 'cervical'? In the snake with "innumerable ribs" how many are 'thoracic'? How many compose a whale's 'sacrum,' the very position of which can only be surmised by the rudimentary pelvic bones suspended beneath? Location in the series, like shape, is no guide. We only gain safe resting-place in holding vertebræ to be morphologically identical—distant as this standpoint certainly is, numerous and slippery as seem to be the stepping-stones by which we reach it.

A kind of symmetry exists between the two halves of the Vertebrate, let it be divided in the plane of any two of its three possible perpendicular axes of extension. The first of these is so palpable as to require little more than mention. The second is obscure, and only traceable in few instances; ordinarily it has no actual existence. The third is the one we purpose to discuss more particularly.

"Right" and "left" express the first kind—*bilateral* symmetry; usually preserved so nearly inviolate, that exceptions to the fact that one side of the body repeats the other are justly regarded as anomalies. It holds with all the framework of the body, and its clothing, as well as with the principal neural tracts and organs of the special senses; though not with the main viscera of the (adult) thorax and abdomen. This, it will be observed, is not 'serial' repetition sideways; the body is either ambidextrous or ambisinistrous, not sinistro-dextrous; it is opposed as well as apposed repetition; it is transverse polar antagonism, and therefore symmetrical repetition. This sort of symmetry, if not preserved with mathematical exactitude, is nevertheless unequivocal and unquestionable. Furthermore:—"All organs which are thus unlike or unsymmetrical in the adult, have been shown by embryologists * * to be alike in the embryo; the deviations from true symmetry taking place as development advances. * * The organs of the great cavities in adult vertebrates are almost uniformly unsymmetrical; nevertheless, in the embryo the symmetry of these parts, even of the liver, is complete." *

If a plane be passed longitudinally, as before, but horizontally † instead of vertically, the body is divided into dorsal and ventral halves, in which we are to look for *supero-inferior* or 'dorsabdominal' symmetry. Since each loop of the double ring ideally repeats the

* WYMAN, *l. c.*, p. 247.—Among notable examples of bilateral asymmetry, this author adduces the unequal nostrils and bent vomer of some cetaceans; the left tusk of the narwhale and mastodon; and especially the very distorted flat-fishes. To these I may add that singular limicoline bird, the *Anarhynchus*, in which the beak is bent upward and *to one side.*

† Man's morphological position is horizontal, like any other animal's; expressions of *direction* in these papers hold this in view.

other, such symmetry may theoretically be said to exist; but it is rarely found. The plane just supposed passes through the chain of conjoined vertebral centra; above it, lies the neural, and below it, the hæmal, series of arches or rings. At no point in the series do these give anything like actual reversed repetitions of each other. In the head, *e. g.*, neurapophyses and neural spines are enormously expanded for accommodation of the great nervous masses they contain. Further backward, the neural canal shrinks, and the hæmal swells with its great pleurapophyses to protect the viscera: further back still, the nerve-tube may close, the myelon end, and only centra and hæmal arches be continued further. Thus the cross-point of the figure-of-8 continually wavers; it may rise till 8 becomes 0, or sink until nearly the same result is produced. Yet there are instances of true supero-inferior symmetry, as in the tail of the homocercal fish, which, horizontally bisected, gives upper and lower halves that are reversed copies of each other.

The rigid adherence to, and clear expression of, bilateral symmetry, or 'lateritypy,' unquestionably results from the essentially similar functions of the two sides of the body—the nearly identical uses to which they are put; for teleology is the master of morphology—is the end and aim of all morphology. Departure from supero-inferior symmetry represents the converse of the same theorem: for no organs can be more diverse in function than those contained, respectively, in the neural and hæmal arches.

Intermediate between these two, both as to its causes and as to their effects, lies the expression of that *antero-posterior* symmetry which we can confidently determine: it is not so evident as the first kind: it is far more so than the second kind. It is more evident in the limbs than in the trunk. In the trunk, cephalization masks it under such guise, that its few apostles number comparatively fewer disciples, and both have been often reviled. In the limbs, it seems to be hidden precisely in the ratio of the differentiation of function in —the teleological discrepancy between—the fore and hind members. Thus it is more evident in quadrupeds (especially in some natatorial and scansorial ones) that use the four limbs nearly in the same way, than in bipeds, as man and birds, the anterior extremities of which are highly specialized. But however distorted and disguised, it may always be discerned, and traced out with greater or lesser detail. While this is true even of the adult, "in the early embryo," says Wyman (*l. c.* p. 248), "the fore and hind limbs, however widely they may differ in the adult, are as nearly alike * * as are corresponding limbs of the right and left sides."

It is not to be inferred from what has been said, that head and pelvis 'repeat' each other; though such is the bold language of Oken's anatomical parable. We are not to assume that, *e.g.*, the os mentis is repeated in the os pubis: for the antitype of the latter is found, if anywhere, in the bow made at the top of the thorax by the clavicle or coracoid, or both. Knowing the number of vertebræ in the head, it is difficult or impossible to homologize the four with caudal segments that range from less than six to as many as thirty: or with sacral segments, which also vary within wide limits. Nor is it necessary, here at any rate, to go into those speculations, strenuously advocated by some, that have regard to the mutually repetitive relations of the oral and anal outlets of the alimentary canal or of the respiratory and genito-urinary openings.* Confining attention to the neural axis, certain well-known facts in respect of its development may be cited. Its growth is not serial, in one direction from one point, but symmetrical or nearly so, for a time, from a central neutral point in opposite directions, with corresponding dilatations at the two ends.* In like manner, ossification of vertebral segments begins at an intermediate point in the series, and proceeds in both directions towards the two extremities. (Consult also in this connection the investigations of the author just cited, regarding development of the limbs—to which we shall have subsequent occasion to allude.)

In face of even the foregoing paragraphs, in which little more than mention is made of some of the arguments that favor the view we desire to support, it would be irrational to ignore—still more so to deny—the existence of antero-posterior symmetry as an underlying principle of organization, the force of which is felt in every part of the body, and traces of the force of which may be everywhere discerned with more or less clearness. It only remains to indicate the modification of the archetype required for its recognition.

No one of Owen's† three "relations of homology" includes that longitudinal antitypy which is implied in the idea of polar symmetry. His "general" homology defines the place of a part in its own vertebral segment —determines what element of a vertebra it is; *e. g.*, basisphenoid to be centrum of the mesencephalic segment. By "special" homology he finds the same part in different animals; e. g., determines it to be the third metatarsal and corresponding phalanges that chiefly form a solidungulate foot. By "serial" homology he denotes that a part repeats in its own vertebra the corresponding part of another; *e. g.*, that the 'styloid process of the temporal' is to the mesencephalic vertebra what the osseous part of a rib is to a dorsal. To the last kind of homology he applies the special name of "homotypy." This comes nearest to what we are now discussing, but is not the same, for

* Interesting as such an inquiry would be, and considerable as are the arguments in favor of such a view. For example:—"In the embryo of all air-breathing animals, there is developed from the abdominal side of each end of the straight intestine a sac; that in front forming the lung, and that behind the allantois, and each opening into the intestine by a narrow neck. * * The correspondence between the two ends is still further, but less clearly, indicated in the subsequent division of them, the fore end into mouth and nostrils, or respiratory and digestive portions, and the hind end into anal and genito-urinary portions, and still further by the development of the tongue on the floor of the mouth, and the male organ on that of the genital portion of the intestine. In most mammals, the genito-urinary portion becomes wholly separated from the digestive, while the respiratory does not. Nevertheless, in the embryo, the first retains its connection for a certain time, as is permanently the case in birds and reptiles."—(WYMAN, *l. c.*, p. 251.)

In support of an hypothesis of fore and hind symmetry, we are not obliged to presume that the same or even corresponding *organs*, actual or potential, must be found at the poles of the trunk. That the same elements of the framework at least should be found, is as indispensable as it is true that they have been proven to exist. But that special organs may be introduced for special ends is indubitable; nor are these necessarily even "modified representatives" of each other. The matter is capable of, and has received, less heroic treatment, as well as sounder explanation: as will be seen by referring to that portion of Prof. Wyman's article headed "*Analogy between symmetry and polarity.*" (p. 254). It is there shown, that matter free to act under magnetic influence, and capable of polarity, is distributed in a manner that "corresponds, first, to all that we designate as right and left in normal development; second, to all that we designate as fore and hind with reference to the long axis of the body, and which is characterized by symmetry in structure."

* "In some adult fishes the spinal marrow ends in a ganglionic enlargement, forming a kind of caudal brain."—(WYMAN, *l. c.*, p.—)

In Hexapodous insects, certain spiders (*Hersilia*), and most Myriapods, antero-posterior symmetry is very plainly marked. Thus in the cockroach (*Blatta*) the jointed caudal filaments exactly repeat in form and structure the antennæ, even to development of special sense organs. On examining specimens treated with liquor potassæ I have found sense organs (probably those of smell) consisting of minute pits like those found in the antennæ, except that they are larger and more numerous. Dr. Anton Dohrn has recently discovered sense-organs in the caudal appendages of the mole cricket (*Gryllotalpa*). Certain other Orthopetra (*Mantis* especially) and Neuroptera, have remarkably antenniform caudal appendages. In the Myriapods antero-posterior symmetry is remarkable; the limbs of the anterior half of the body pointing headwards, those of the posterior half being directed tailwards, while the last pair of legs are, as in the Centipeds, specially developed into antennæ-like organs.—A. S. PACKARD, JR., in "*Guide to the Study of Insects*," and "*American Naturalist*," passim.

† OWEN, *Report on the Homologies of the Vertebrate Skeleton.*

there is no recognition of the *reversed* repetition that is the essential idea of symmetry. Right and left hands, *e. g.*, are symmetrical, precisely because they are not transverse 'serial' homologues: bilateral symmetry gives reversed copies of parts. Parity of reasoning demands that, if the notion of fore and hind symmetry be entertained, vertebral segments must not be conceived as 'serial' homologues—as continuously following after each other; but as reversely repeating each other on either side of, in either direction from, a certain median neutral point. Arrows illustrating this idea point <—— ——>; not ——> ——>, as implied in Owen's archetype.

A vertical transverse plane passes somewhere* across the linked chain called a 'vertebrate,' dividing it into two series of segments, that ideally repeat and represent each other symmetrically: the first one behind the plane the first one in front of the plane, and so on. This hypothesis ignores any specialization of one end of the archetype, and presupposes the modification that has been indicated. It is as if corresponding halves of two animals were joined end to end: the archetype is dicephalic or dicercal—not cephalo-cercal.

These views are strongly supported, if not demonstrated to be true, by both the development and the adult condition of the limbs, as we hope to show in another paper; when the fore and hind members will be considered as longitypes, precisely in the sense that right and left ones are laterityps.

COMPARATIVE VALUE OF THE GALVANIC AND FARADIC CURRENTS.

By A. D. ROCKWELL, M.D.,

OF NEW YORK.

Since the time of Remak, the comparative value of the galvanic and faradic currents in therapeutics has excited continual interest, and at one time was the subject of angry controversy. At the present day all electro-therapeutists who keep abreast of the progress of their department agree that both currents are of service; that one will fulfil certain conditions for which the other is inadequate, and that no one who expects to secure in practice the complete effects of electrization can dispense with either. Concerning the special indications for the use of one or the other, opinions widely and honestly differ, according to the opportunities and experience of each individual. In Germany, where the school of Remak is dominant, the galvanic is used more than the faradic; in France, at least among the disciples of Duchenne, the faradic more than the galvanic. In England and America both currents are employed, general practitioners using chiefly the faradic, while specialists use both with more or less exclusiveness.

Much of the confusion that exists concerning the differential indications for the use of the galvanic or faradic currents arises from an imperfect or erroneous or exaggerated conception of the distinctions in their physiological effects.

The general belief or supposition is that there is between them a radical and important difference in *kind*, and that an appreciation of this distinction is essential for a knowledge of the differential indications for their use. From the accumulating results of experiment and experience in electro-physiology, diagnosis, and therapeutics, we think that there is strong reason for regarding the essential distinction in the effects of these currents on the body as mainly of *degree*, and that this is the scientific basis for their differential employment.

Thus the galvanic current applied on the face and head produces flashes before the retina, while, as a rule, the faradic will not. We have, however, frequently treated certain sensitive pathological conditions where the same flashes were caused by the faradic. With the improvement in the general condition of such patients, this unusual susceptibility to the faradic influence always disappears. An important peculiarity of the galvanic current is that, when applied on the neck, it causes a metallic taste, and yet we have on several occasions treated cases of constitutional neuralgia combined with excessive irritability, where the same effect was markedly and even unpleasantly produced by the faradic current, when applied above the seventh cervical vertebra. Other well-recognized peculiarities in the effects of the galvanic current, distinguishing it from those of the faradic, are *giddiness* and *vertigo*, when applied on or near the head, *diplegic contractions* and special sensations down the upper extremities and over the body, when applied to the cervical sympathetic; marked chemical effects, especially when used in large quantity, redness and burning sensations of the skin at the points on the surface where the electrodes are applied. All of these effects are observed in a less degree from the faradic current, and some of them in cases of great abnormal sensitiveness are very decided. When we come to study their therapeutic effects, we also find that both currents differ chiefly in degree. In the form of localized electrization, both can produce muscular contractions in paralyzed muscles and relieve local neuralgia; both cause absorption of abnormal secretions, and both can directly affect the brain, spinal cord, sympathetic, and all the internal organs, producing, in different degrees, the various therapeutic results that directly and indirectly flow from electrical excitation of these parts. In the form of general electrization both currents, besides producing most of the results of localized electrization, act as powerfully stimulating tonics, and thus form most efficient aids in the relief and cure of nervous exhaustion, nervous dyspepsia, constitutional neuralgia, and of a wide range of nervous diseases associated with or dependent on general debility.

In electro-surgery both currents avail to discuss tumors, heal ulcers, and hasten absorption, although the galvanic current, when used in large quantity, produces cauterizing effects to which the faradic is unequal. And yet the difference in *degree* between the effects of the two currents is so marked and so clearly demonstrable as to be practically equivalent in certain instances to a difference in *kind*, and to give very important and remarkable advantages to one current or the other, according to the indications offered.

ADVANTAGES OF THE GALVANIC OVER THE FARADIC CURRENT.

The advantages of the galvanic over the faradic current are:—

1st. *A greater power of overcoming resistance.*

It therefore affects the brain, spinal cord, and sympathetic more powerfully than the faradic, since the anatomical position of these parts is such that considerable resistance must be overcome in order to directly affect them.

For the same reason it is usually to be preferred when it is desired to affect the middle and internal ear, the retina, and the muscles of the eye.

2d. *A power of producing muscular contractions in cases where the faradic fails.*

* Through the middle, *i. e.*, neutral point of the longitudinal axis; precise position not determinable, and probably varying with different, though fixed for the same, species.

This peculiarity of the galvanic current has been observed so frequently, and in such striking instances, that it has become an accepted fact of electro-therapeutical science.

After a certain amount of treatment by the galvanic current, the paralyzed muscles frequently resume their susceptibility to the faradic.

3d. *A different and far more potent chemical action.*

The chemical power of the galvanic current is most markedly seen when used for the purpose of galvano-cautery, or "galvano-caustic chemique."

In order to produce the energetic caustic effects of the galvanic current, it is necessary to use elements that generate quantity of electricity, and to combine them in such a way that the quantity produced shall be very large, since an ordinary single element, or indeed a large number of elements arranged for intensity, exhibit only a comparatively feeble cauterizing effect. It is because the galvanic current can be thus arranged for quantity, more than in any difference in kind between the effects of the two currents, that it has so marked and peculiar a superiority to the faradic as to practically amount to a difference in kind. The quantity of the faradic can be but slightly increased, and hence, although it does possess some chemical virtues and produces slight chemical effects, it is not indicated where such effects must be very energetic or concentrated. The superior efficacy of the galvanic current to the faradic, so often observed in the treatment of neuralgia, of atrophied muscles, rheumatism, &c., is probably due to its greater chemical or catalytic action. It probably induces more rapid and more important molecular and other changes in the tissues.

ADVANTAGES OF THE FARADIC OVER THE GALVANIC CURRENT.

The advantages of the faradic over the galvanic current are these :—

1*st. By virtue of its frequent interruptions it more easily produces muscular contractions when passed over the muscles or the nerves that supply them.*

In order to produce muscular contractions with the galvanic current, it is necessary to interrupt the current, and, unless it is quite powerful, to localize at least one of the electrodes over the motor nerve by which the muscle is supplied. On the contrary, the faradic current is in a condition of rapid interruptions, and produces contractions when indifferently passed over the surface of the muscle, as well as when localized on the main motor nerve that supplies it. This advantage of the faradic current is best appreciated in *general electrization*, the powerful tonic effects of which are partly and quite largely due to the passive exercise, and consequent important changes of tissue that result from the several thousand muscular contractions that take place during an ordinary sitting. In localized electrization this advantage is not so clearly or strongly marked, since in this method, by a proper knowledge of electro-therapeutical anatomy and sufficient care, it is possible to direct one of the electrodes on the motor points; and yet even here the faradic current is much more convenient, because its employment requires no arrangement for interruptions and less minuteness of attention to the situation of the "motor points." The exceptional cases of paralysis, where the muscles have lost their susceptibility to the faradic current, do not interfere with the general rule.

2*d. It is less likely to produce unpleasant or harmful effects than the galvanic.*

In certain acute and chronic pathological conditions, where it is desirable to produce a decidedly stimulating effect without marked catalytic action, the faradic current can alone be used with benefit and safety. To confirm this statement, we rest mainly on the evident results of clinical observation. We recall at least two cases of severe neuralgia of the trigeminus, where a mild and rapidly interrupted faradic current, applied on several occasions, relieved the pain very decidedly.

In order to hasten recovery, the constant current from but four of Bunsen's cells was for a moment directed along the course of the painful nerve. In both instances the neuralgia immediately returned with increased severity, but was relieved a second time, and soon recovered under the influence of the current first named. We may indeed refer to a number of cases of severe constitutional neuralgia and excessive nervous exhaustion where the faradic current invariably relieved, and where the galvanic as invariably aggravated the symptoms.

Our own experience teaches, that wherever the constant current can be used without injury, there also will a faradic current of relative intensity be harmless. It teaches further, as above stated, that in certain conditions where the faradic current is not only harmless, but of decided benefit, the galvanic, even when its tension is very slight, may occasion evil results.

FIG. 1.

GALVANIZATION OF THE SYMPATHETIC.

One of the most important advantages possessed by the galvanic over the faradic current is the readiness with which the former affects the sympathetic.

The attention of the profession was first called to this fact by Remak, who observed the occurrence of diplegic contractions when the superior cervical sympathetic was submitted to the influence of the constant current.

This observation of Remak was confirmed by Fieber, who produced similar phenomena in the living animal by exposing the sympathetic and directly galvanizing it.

It does not come within the scope of this short paper to theorize at length concerning the beneficial results following galvanization of the sympathetic.

In those cases of paralysis of vaso-motor nerves and arterial spasm that are benefited by this method of treatment, the favorable results may be ascribed in brief to the influence exerted on the vaso-motor nerves.

The few following cases may serve to illustrate some points in the above remarks :—

CASE OF PERSISTENT AND EXCESSIVE NAUSEA—RECOVERY FOLLOWS GALVANIZATION OF THE SYMPATHETIC.

Mr. H. S., a tall spare man, aged 49, was the victim of a mild form of nervous dyspepsia, from which he had suffered slightly for many years. Some three years since, a very annoying symptom supervened. Every morning soon after breakfast he observed a feeling of nausea that lasted a short time and then passed away.

This symptom gradually increased in severity and duration, until it became most distressing, and for more than two years no form of medication had afforded more than temporary relief. We first made use of the faradic current by the method of general electrization, directing the applications more especially to the back of the neck, so as to affect, as far as possible, the sympathetic. As no relief followed, we resorted to the galvanic current, applying (as illustrated in the cut) the positive pole at the inner border of the sternocleido-mastoideus muscle and the negative at the sixth cervical vertebra, and allowed a mild uninterrupted current to pass for three minutes. By this method the sympathetic was decidedly influenced, and relief was afforded. Succeeding applications gradually reduced the intensity of the nausea until the tenth séance, when it disappeared completely and has not since returned.

CASE OF DISORDERED NERVOUS ACTION RELIEVED BY GALVANIZATION OF THE SYMPATHETIC.

Mr. H., age 40, complained of an unpleasant feeling of constriction in the throat, and a constant pricking or tingling in the arms and hands. The patient, who was of a highly nervous organization, stated that these symptoms had existed for a number of years. During the last few months, however, they had become so decidedly aggravated as to excite alarm, and impelled him to seek professional advice.

FIG. 2.—General Electrization.*

* Fig 2 illustrates an application to the forehead, being the first step in the most thorough form of general electrization. For convenience of illustration the cut represents the patient as uncovered; in practice no such exposure is necessary.

A number of general applications with the faradic current were administered without special result. We then resolved to influence the sympathetic by the galvanic current.

The first application to either cervical sympathetic excited a decided perspiration in both axillæ and along the inner side of the arms. The symptoms of which he complained became rapidly less marked, and after twelve applications ceased to annoy him.

Patients suffering from cerebral effusions frequently speak of an unpleasant roughness in the eye. This symptom may probably be ascribed to dilatation of the smaller blood-vessels through weakness of the vaso-motor nerves. We have found that this condition is almost invariably relieved by galvanization of the cervical sympathetic.

AN AGGRAVATED CASE OF CHOREA RESISTS THE ACTION OF THE GALVANIC, BUT YIELDS TO GENERAL ELECTRIZATION WITH THE FARADIC CURRENT.

The little patient in whose case the results of treatment by the faradic current were so gratifying, was under the professional care of Dr. J. O. Farrington.

Dr. George T. Elliot was called in consultation, and by these gentlemen electricity was advised.

Some two months previous to the consultation certain abnormal movements—such as starting suddenly to his feet, throwing out a hand, or a foot, &c.—were observed by the teacher of the boy. Two weeks subsequently, the patient was seized with well-marked choreic symptoms of the right side of the body, and in two days the disturbance extended to the opposite side. So constant and violent were the movements of his arms and legs that it was impossible to keep him on a bed or sofa. It was necessary to place him on the carpet, surrounded by inflated rubber bags. Intelligence seemed to be perfect, but the power of speech was lost, and the sufferer made known his wants by impatient cries and ill-directed motions.

Sleep was impossible without the nightly administration of an opiate. Contrary to our judgment, but by suggestion, we commenced treatment by the use of a mild galvanic current directed especially to the base of the brain and the spinal tract; but this method served only to aggravate the child's condition. We then resorted to the faradic current by the method of general electrization (see Fig. 2), but so violent were the involuntary movements in the limbs and body of the patient, that it was with difficulty that he could be held in a sitting posture and his feet kept on the copper plate to which the negative pole was attached. The applications were *general*—every portion of the body, from the head to the feet, being influenced on each occasion.

Improvement was manifest from the very first. He was at once enabled to sleep soundly, although his opiate was reduced one-third, and after the fourth application it was dispensed with altogether. In the course of three weeks, during which time fifteen applications were given, the case was so far improved that the patient was able to utter distinctly words and sentences. The choreic symptoms were so much diminished that the boy could readily sit quiet and alone, and during an application was able to command the movements of his body and feet. Improvement continued during the administration of a few more applica-

tions, when the child was taken to the sea-shore, where in two weeks he quite recovered. Some three months since, after having enjoyed excellent health for a year and a half, the boy suffered from a second attack. He was immediately subjected to the influence of electrization, and recovered even more rapidly than before.

THE TREATMENT OF PHLEGMASIA DOLENS WITH OPIUM.

By C. C. P. CLARK, M.D.,

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Very few of the maladies of parturient women are more worthy of the attention of the obstetrician than phlegmasia dolens. This disease, it is true, is seldom the cause of death, but it is attended by very great suffering, and is often followed by very serious and protracted evils. The former feature is so eminent as to have given the disease its specific appellation: it is called, *par excellence*, "The Painful" Inflammation. The epithet is distinctive enough, for the complaint is actually attended by a greater amount of suffering than accompanies any other ordinary inflammation. It is not unusual for the patient to lie for many weeks in great and constant agony.

To this important element is to be added one of even greater seriousness in the ordinary sequelæ of the disease. These are long-continued and even permanent lameness and weakness of the affected limb, œdema and varicose veins, with the attendant evils of ulcers, eczematous affections, and depraved health.

These calamities are usually aggravated by each successive pregnancy and by casual derangements of the health, and are seldom entirely recovered from. The results of phlegmasia dolens thus cause many women literally to drag out for the rest of their lives a miserable existence.

Notwithstanding the serious character and the very considerable frequency of this disease, it has received very little attention in recent treatises on midwifery. Of the few authors within my reach it is not even mentioned in a large majority; Cazeaux and Bedford, for instance, among recent writers, have no account of it. When it is introduced, while its history and pathology are properly exhibited, the treatment that is prescribed is to me very unsatisfactory, and indeed very objectionable. Leeches, blisters, cathartics, diuretics, fomentations, and, in short, all the weapons by which inflammation is ever attacked, are prescribed with a promiscuousness that is characteristic of uncertainty and of (regular) quackery. A case published in the September number of the Journal of the Gynæcological Society of Boston, and republished in the Philadelphia Half-yearly Compendium of Medical Science, Part V., well illustrates the vagueness and the useless activity of this treatment. In that case, notwithstanding a sufficient variety of remedies, the disease, after running its course in the left lower extremity, attacked the right, and was sufficiently cured only after thirty-eight days to permit the patient "to sit up and walk about, some lameness and œdema still remaining." One hundred and sixteen days from the beginning of treatment "she uses her limbs freely, but they get tired easily and are often somewhat swollen at night."

This patient was treated by anodyne liniments, fomentations, sinapisms, poultices, laxatives, diuretics, hydrocyanic acid, quinine, carbonate of ammonia, chlorate of potash, hops, "et cet." The reporter concludes, as well he might after such treatment and such results, that "nature and time, with rest and an appropriate diet, are the most important elements in the cure."

I do not refer to this case because its treatment indicates any want of skill, for the medical gentleman who relates it is evidently a man of science and a close observer, but because it furnishes a fair representative of the common treatment of this disease to-day, and of the average results of that treatment.

For the last fifteen years I have treated this disease with a single remedy: that remedy is opium. Opium cures phlegmasia dolens with more certainty than quinine cures a tertian ague. I speak from the experience of more than a score of cases. The results have been uniform. The remedy does not simply make the patient comfortable: it cures the disease, if any remedy cures any disease. I never hesitate to assure a patient attacked with phlegmasia dolens that her sickness shall be short and painless, and shall not be followed by that disablement that the experience of some neighbor has taught her to fear.

The rule for the administration of the drug is simple: Let the pain be kept thoroughly subdued. It is not too late for the beneficial effect of the medicine so long as the disease is painful, but the sooner the treatment is begun the more complete is its remedial influence. In view of this fact, the first symptom of the disease should receive attention. That symptom is, I think, always pain in the lower part of the pelvis on one side. It may be near the groin, or the back, or the hip-joint, or it may be deeply and obscurely seated. It is generally not severe at first, but it is always accompanied by a certain hardness of the pulse that the *tactus eruditus* easily detects. But whether or not this preliminary pain be noticed, whether the suffering be extreme or moderate, whether the disease be accompanied by much or by little fever, whatever the state of the bowels, of the secretions, or of the excretions, the rule of treatment is the same: the pain must be met by opiates, which should be carried to the point of procuring absolute relief therefrom; and their use should be continued till it can be omitted without the recurrence of suffering.

That this remedy does not simply relieve pain, but also actually arrests the morbid process, will be obvious to any one who compares the course and duration of a case treated by it to the progress of one submitted to all or any part of the multifarious treatment that is laid down in the books. It will be still more obvious in the results of the disease; for, in a case early and thoroughly treated by opium, the femoral and other veins will be found after the sickness to be free from those fibrinous clots that under other treatment seal them up for ever. Even in cases where the morbid process has become mature and extensive before opium has been resorted to, the disease will not only be arrested by it, but the evil work already done will generally be undone. Existing fibrinous deposits will soften and dissolve into the current of the blood, and the affected veins will be left pervious. I know, as a matter of repeated and careful observation, that the signs of venous obstruction rarely or never show themselves in any considerable degree after a case of phlegmasia dolens that has been vigorously handled by opium.

The control of opium over active fibrinous inflammation of the veins is not confined to this seat of that disease. I have seen repeated instances of its power in those accidental cases of inflammation of the veins which intervene in the course of other diseases. I do not see in this any specific or peculiar power. I believe it is the same control which we see more or less evinced by opium over all the fibrinous inflammations. We all know the great influence that it displays, especially if used early, in peritonitis and pleuritis. It is not strange that it should check also an inflammation of

the veins. On the contrary, the seat and the other conditions of that inflammation are especially favorable to the influence and permission of the free use of opium. I may add that the parturient condition, anæmic, irritable, and exhausted, is especially suited to the beneficial effects of this drug.

I by no means claim originality in the use of this remedy in this disease. Most practitioners, I am well aware, resort to it for relieving pain and for procuring rest, and many of them, I have no doubt, place on it their main reliance. But I go farther than even these last: I use opium and nothing else,* and I make my patients comfortable and give them a quiet and complete cure.

Alcohol.—Anstie still appears as the great advocate of the use of alcohol. He thinks that in most, if not all constitutions, with the exception of those who live tranquil lives, free from anxiety, and with abundant opportunities for imbibing fresh air, and taking pleasant and healthful exercise, from one to one and a half ounces of absolute alcohol, in the shape of wine, beer, or spirits, is a valuable, if not indispensable article of diet; that in the febrile state, even with the red face and bounding pulse, from three to six, or even twelve times as much, may be required; that in debility not attended with fever there is no such tolerance, and alcohol then works very great mischief; that the recommendation of "plenty of port wine" to hysterical women is attended with results which are disastrous to the last degree; also in those two vast groups of neuroses, the neuralgic, and that which includes the thousand and one forms of hysteria and hypochondriasis. These patients also very readily develop a strong and dangerous liking for alcoholic beverages, which fever patients do not. There is a safe and healthy tolerance of alcohol in chronic debility induced by copious hemorrhages; also in phthisis in delicate persons, with a marked tendency to colliquative sweating, and inability to assimilate ordinary or fatty food; also in certain chronic neuralgias of the aged, when the power of digesting food is almost suspended; and in certain chronic infantile diseases, attended with marasmus and indigestion. In the whole series of the mental states which hover between hysteria and insanity, bromide of potash is far better than alcohol.—*Med. Press & Circular.*

Tapping of the Pericardium.—Dr. Löbel, of Vienna, states (in the *Central Blatt*, No. 3, 1870) that, to relieve dyspnœa in pericarditis, he removed some of the effused serum by a simple operation. To a glass syringe, capable of containing an ounce of fluid, a pointed canula-needle was adapted, as used for subcutaneous injections. A puncture was made in the third intercostal space, and the syringe soon filled, by suction, with a yellowish fluid. About three ounces of the latter were removed by three times repeating the same operation. Great relief was obtained, and the patient, with whom all other means had failed, was, after several days' sleeplessness, able to rest. The improvement did not last long, and hydrothorax soon supervened. The distress in about twelve days became again so great that some serum was removed in the same manner, the puncture being, however, made in the third intercostal space on the *right* side, the canula being directed to the left. Three ounces were again evacuated; but the patient, full sixty-eight years of age, died the next day. Hydrothorax was found on both sides, but the pericardium contained very little fluid. The holes made by the needle were very distinct; but no trace of blood, or lesion of the heart, could be discovered. Dr. Löbel thinks that this mode of procedure is very painless, but that the instrument to be used should, in future, be an improvement upon the syringe he employed.—*Lancet.*

* I shall not be understood as meaning that I might not give the patient a blue pill, or a dose of castor-oil or of spts. of nitre, as we do in all diseases where special circumstances require it.

Chloroform.—Dr. Simpson says that his recent case of death from chloroform was the first which has proved fatal in his practice. Death from asphyxia, or from syncope, may occur in some cases. Dr. Simpson says, death from asphyxia can generally be averted by at once arresting the inhalation of the drug whenever the breathing becomes noisy or stertorous. Death from syncope is far less under control, and has, apparently, been the cause of the majority of the fatal issues mentioned in the journals. Before the introduction of chloroform, patients sometimes died of syncope on the operating table. He gives many instances where slight operations, such as opening abscesses, have been followed by death before the introduction of chloroform. Hence, he argues, that probably the fatal terminations in some cases of chloroform are not *always* to be ascribed to the inhalation of the drug. At the various drug manufactories in Edinburgh, upwards of two millions of doses of chloroform are manufactured yearly. Dr. Simpson asks whether there is any other potent drug which could be administered with so few fatal results.—*Med. Press & Circular.*

The Discovery of the Animalcule Causing the Itch.—E. L. Keyes, M.D., N.Y. (*N. Y. Med. Journal*), in his very interesting report on Dermatology, assures us that the itch was known by the Chinese 4,000 years ago, and was called *tchong-kiai*, signifying pustules formed by a worm. As lately as the year 1821, Lugol offered 300 francs to any one who could show the animalcule causing the itch. This was finally done, first, in 1834, by François Renucci, assistant of Alibert, who extracted the insect in the presence of numerous spectators. Since that time the animalcule has been pretty generally considered to be the sole cause of the disease; but even now some authors deny to it the *rôle* of causality. Devergie, for example, arrives at these two conclusions:—1st. That the itch may be a spontaneous malady. 2d. That if the acarus is constantly present in the itch as a coincidence, yet the theory of its existence can just as well admit that the insect is a morbid product as that it is a morbid cause and agent of transmission.

Removal of the Kidney.—Dr. Simin, of Heidelberg, wounded the ureter of a woman in ovariotomy. A flow of liquid continued from the cicatrix in the abdomen, which was urine. He extirpated the kidney in consequence, with satisfactory results.

Cinchona.—The culture of the cinchona, or Peruvian bark, in St. Helena is progressing. The plants all look flourishing. There are now about 4,000 of them.

Apomorphia.—This new base, being free from narcotic properties, seems likely to become a valuable remedial agent.

Treatment of Epilepsy.—George Johnson, M.D., F.R.C., Physician to King's College Hospital, advocates chloroform in connection with bromide of potassium in this affection. Chloroform wards off a threatened fit, and cuts short a violent and prolonged paroxysm.

Burnett's Disinfecting Fluid.—Dissolve 200 grains of chloride of zinc in one pint of water, and bottle for use.

THE MEDICAL RECORD.

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MEDICAL REGISTRATION.

THOSE who have watched the progress of events in the medical world, for the past few years especially, have noticed that the profession are gradually dispensing with most of the old theories of reform and taking to more advanced liberal and practical ones. Among the former, that of legislative enactment for the protection of our rights and privileges has the smallest number of supporters. This is the natural result of the experience of the last half century. During that time, of all the laws that have been enacted for our benefit, hardly a single one exists which meets the design or intention of the original framers; while the others that have had more liberal and just provisions have been speedily and effectually repealed. In view of these facts, it must be conceded that all our hopes for reform must narrow themselves for the present to the limits of our own body, and that we must seek in our own way to stand on our own merits before the community. The idea is certainly tenable enough, and, considering the vast amount of work to be accomplished in the direction of taking care of our honor, dignity, self-respect, and usefulness to each other, we should for the present be satisfied to go no farther. The time has come when we are to properly discipline our army, that we may be able to act in a consistent manner on the defensive in regard to public opinion, rather than offensively in regard to our legislators.

One of the most feasible and satisfactory plans for initiating the requisite reformative measures is that of voluntary and thorough registration. Not long ago we remarked in a general way upon its importance, and we seize the present opportunity of again bringing up the matter, not only for the reason that the constant agitation of salutary measures is always beneficial for ultimate good, but because we believe that the medical opinion of the day is strongly in favor of the idea, and that we are at present in a better condition than ever before to carry it to a practical solution. From present indications we may consistently venture the assertion that the recent action of the Medical Society of the State of New York in regard to the measure is seconded by every other similar institution in the country. In fact there seems to be every argument in favor of it, and no forcible one against it. That the proper feeling is more or less universal, seems to be evident in the action of the American Medical Association for the past two or three years. A committee has been formed, of which Dr. Packard, of Philadelphia, is the present chairman, whose duty it has been to report upon some practical plan by which this proposed registration can be effected. That the time has come for a culmination of effort seems evident from the passage of the following at the last meeting but one of the Association:—

"*Resolved*, That each State Medical Society be requested to prepare an Annual Register of all the regular practitioners of medicine in their respective States, giving the names of the colleges in which they may have graduated and date of diploma or license."

Add to this the recent action of our State Society, to the effect that each county society shall look to the correct registration of medical men in its district, and it seems as if little else could be desired to insure the practical working of the proposed measure.

It is presumable that every respectable member of our profession, who is desirous of conforming with the letter and spirit of our Code of Ethics, is a supporter of some local medical society, whether of the county or district, and it would not by any means be an arduous task for the secretary of such an organization to give the authenticated list of the members. This much could certainly be done in the way of a beginning, and if it did no more than show to such as were not members of any society that the profession of the district were in earnest in their support of the system, very few, if any, of these would deem it to their interest to be considered outsiders. We care not how popular any medical man may be with his patients, how extensive may be his practice, or how large his income; if he be actuated by the proper motives, and be possessed of the proper education to take his stand with his brother physicians, he cannot afford to be looked upon with the suspicion of an irregular. The grand army medical, as such, has succeeded in gaining for itself during the past two thousand years too much reputation as an upright, dignified, and influential body to render it desirable for any straggler, under the plea of being progressive, to defy its discipline and fight on his own account. This, in fact, is so generally understood, that even the veriest quack knows how much of desirable respectability he can gain by identifying himself in ever so equivocal a way with the regulars. How much more must this be the case with such of our brethren as are merely lukewarm in regard to the proper spirit of the Code, by keeping aloof from all recognized association with the profession. We are not, however, at liberty to say, when a physician is not a member of some medical society, that he is not regular; but there is certainly room for a damaging aspersion against his proper standing.

It is but just to himself and the medical community in which he resides to give some reasonable explanation for his isolation. But correct as the principle and rule may be, we can, in view of the greatest amount of good to be obtained, allow of exceptions in the case of membership to societies, and permit all to appear on such a register as shall be approved worthy by the actual members of the societies of their localities.

The manner in which this registration must be carried out will insure for it, theoretically speaking at least, the greatest thoroughness, effectiveness, and impartiality. The basis of the system rests only upon truth, justice, and the purest of motives on the part of such as take the matter in hand. Nothing is compulsory, neither are individual rights interfered with in the slightest degree. The requisites for registration being, first, the possession of a medical diploma or medical license, and, second, compliance with the Code of Medical Ethics of the American Medical Association, in letter and spirit: only such as are known to fulfil the same appear in the list. The register made in conformity with such conditions only vouches for such names as appear in it, and nothing more. No medical man is compelled to show his diploma or license to any representative of a board of registry; he is only *invited* to do so, and if he does not see the necessity of complying, there the matter ends, and the said board cannot, of course, place his name among such as are known to have their degrees. The fact of the name being left out of the list does not, however, prove that the individual has not a diploma; there is only wanting positive evidence that he has such a document. The evidence of posession is, so to speak, strictly positive one way and entirely negative another. On the other hand, when an individual is known to have violated the Code, the board are not warranted in posting him as a quack, but are justified in withholding his name from among those who are known to act differently. This plan, when consistently followed out, relieves the registrar from all legal responsibility, while at the same time it makes it of much importance that any physician who desires to be considered respectable should have all doubts as to his true character cleared up as if it were according to law.

The obnoxiousness which naturally attaches itself to the workings of a limited and self-constituted tribunal is effectually removed by leaving all questionable cases to be decided by vote of the special society of the district. The publication of the list should be on the responsibility of the society rather than upon a committee or an individual, not only for the reason that it is just to the individual, but is more authoritative for the profession, by preventing the suspicion of partiality. We do not see how the thoroughness of this registration can be better guaranteed than by leaving it under the control of the county and district societies, as the members of such are always sure to know of any irregularities of behavior among their number, or of those who are only resident practitioners of the district. Aside from this, another good is accomplished in drawing with unmistakable distinctness the line between the questionables and unquestionables, a thing very much needed in many of our country districts; giving the former to understand that a tangible penalty has at last overtaken them.

Speaking generally of this system of registration, we think ourselves warranted in the opinion that the profession are willing to adopt it as authoritative, and that the time has come to inaugurate it in every State in the Union. As far as we can judge from the workings of the Medico-Historical Society of New York, in the establishment of the Medical Register of the City and County of New York, we can predicate a triumphant result for any other organization in any county that will labor as consistently, impartially, prudently, and decorously as has this Association. The time for mere experiment has gone by; the Association has demonstrated that trustworthy registration can be made in a district more populous than any other in the country, and we see no reason why in other counties, where the difficulties are reduced to a minimum, an attempt to follow the example is not at least warrantable. The benefit of this same registration has been incalculable to the profession of the Metropolitan district; every right-minded and honorable practitioner is in favor of it; and it is only those who have heretofore, and do still, show themselves unworthy of being in good company that speak against it. The sentiment of the profession here in regard to the usefulness and reliability of the system is such that there is no question as to the standing of such as are in the list, while a great deal of suspicion attaches to those whose names do not appear—a suspicion which, considering the care with which the work is done, cannot be explained on the score of the mere accident of omission. Aside from cementing the interests of the profession, and preventing a misunderstanding as to the true relation of physicians to each other, and to the community, numerous examples could be shown in which it has exercised a most salutary influence upon such as would otherwise have defied all restraint, admonition, or discipline. In a word, it is the silent censor of the profession, which, while it never condemns, never speaks well of any one unless he is deserving of it. Again we say, the profession are ready to endorse the movement; let the secretaries of the county societies show the proper and practical spirit in initiating it.

SINCE our last issue the trial of McFarland for the shooting of Richardson has terminated in a verdict of not guilty. The plea of insanity set up by the defence was well sustained, and too much credit cannot be given our townsman, Dr. W. A. Hammond, for the admirable manner in which he worked up the medical facts in the case, in the very face, too, of a very just prejudice against the usual medico-legal under-

standing of accountability in the premises. If there be such a disease as instantaneous insanity, this certainly is an instance of it. But why is such a sufferer allowed outside of a lunatic asylum? His trial and acquittal cannot have cured his malady, and another paroxysm may at any time end in the sacrifice of another human life. If it be just to acquit him, it is certainly very unjust to deny him the privilege of being cured of his dreadful propensity to kill in future. The community have a right to make for itself the same excuse as did some deferential boarders troubled with bedbugs:—"We pity the poor insects for having such proclivities, but really we have not the blood to spare."

Progress of Medical Science.

THE ADMINISTRATION OF CHLORAL.—J. M. Da Costa, M.D. (*Am. Jour. Med. Sciences*), in his "Clinical Notes on Chloral," thus observes: With reference to the action of chloral on coughs it is insufficient. Nor did it do any good in the only case of asthma in which he tried it. He has also been disappointed in its use in hiccough and in chorea. It is important to know that this powerful agent is not devoid of danger, and in every case we should administer it in tentative doses and carefully note its effects. It is contra-indicated in some diseases of the heart, and ought not to be prescribed for patients with feeble heart. Some of the unpleasant effects of the drug can be avoided by the simultaneous administration of opium. The two remedies can be used advantageously in some cases of delirium tremens, and when we wish to quiet pain. In conclusion, he believes that it is an important addition to our therapeutic means—chiefly, however, as a hypnotic. Its action as a destroyer of pain is limited, and it cannot compete with ether or chloroform in producing the insensibility requisite for surgical operations. Its chief value seems to be that of an auxiliary to opium, or to take its place when opium is not admissible. It is, however, not so certain; nor is it likely to displace that peerless drug.

BRONCHORRHAGIA AS INDICATIVE OF PULMONARY TUBERCULOSIS.—It was thought for many years that bronchorrhagia was indicative of approaching consumption; but Prof. John Ware has analyzed 386 cases in reference to this point, and demonstrated that no reliance can be placed on this symptom as showing the presence of tubercles, or even a tendency in that particular direction.

HUMULUS LUPULUS IN INTERMITTENT FEVER.—Dr. W. Y. Godberry, of Benton, Miss. (*The Jour. Materia Medica*), regards the anti-periodic power of humulus lupulus as equal to that of any other article in the Materia Medica, except quinia, and has often found it to succeed in arresting intermittents after quinia had failed.

QUININE IN LUMBAGO.—Dr. Glover recommends two-grain doses of quinine in lumbago every four or six hours, when other remedies fail. It is indicated only when the urine is clear.

SOFTENING OF BONES IN DISEASES OF THE BRAIN.—Dr. Clouston mentions that in some cases of death with aphasia, insanity, and general palsy, the bones become so soft that they may be easily cut with a knife.

GALL-STONES.—Dr. Nesfield, of Manchester, has had a case in which gall-stones passed through an abscess in the abdominal walls near the umbilicus. There was no jaundice, and the bowels acted regularly.

WAXED PAPER AS A SUBSTITUTE FOR OILED SILK.—Drs. Agnew and Hewson, of the Penn. Hospital, used waxed paper as a cheap and efficient substitute for oiled silk in surgical dressings. Ordinary thin tissue paper is passed once through melted wax and dried, when it is ready for use.

TRICHINÆ IN THE DOMESTIC FOWL.—Dr. G. S. Bryant reports having found embedded in the stomach and intestines of the hen large numbers of entozoa, coiled in cysts in every possible attitude, and not unlike the trichinæ found in the human muscle. He suggests that the disease known as "chicken cholera" is dependent on the presence of these entozoa, and promises to continue and report investigations on this subject.—*Richmond and Louisville Medical Journal.*

CAN SCARLET FEVER BE PREVENTED?—In reply to this question, Dr. Searcy, of Tennessee (*Trans. Tennessee Med. Soc.*), narrates several cases which came under his observation during several years past, showing, as he believes, that the tonsils are the parts through which the poison passes into the system. When the first manifestations of the disease are noticed, he applies at once a strong solution of nitrate of silver— 3 j. to water ℥ j. This is repeated twice daily for several days, with mild laxatives and proper diet, and in the majority of cases he believes that the disease may be mitigated or the threatened attack prevented.

BROMIDE OF POTASSIUM IN SACCHARINE DIABETES.—Prof. Austin Flint, Sr., reports in the *American Practitioner* three cases of saccharine diabetes in which he prescribed the bromide of potassium in 15 to 20 grain doses three times daily, with ordinary anti-diabetic diet, with very marked benefit. There was in each a rapid diminution of the thirst, a decrease of the amount and specific gravity of the urine to about a normal condition, and a corresponding improvement in the general health and condition of the patients.

ICE POULTICES IN TYMPANITIS.—Dr. Peter, Physician to La Pitié, Paris (*Med. News and Library*), employs a very efficacious and little-known method of subduing the tympanitic distention of the abdomen, so often an urgent symptom in typhoid fever, viz., the use of what may be called "ice poultices." Small fragments of ice are scattered over a thick layer of dry linseed meal; in this way a poultice is formed, which, in consequence of the slow melting of the ice, is kept at the temperature of melting ice. To Prof. Monneret belongs the credit of conceiving and introducing to the profession this very valuable method of treating tympanitis.

CASES OF AURAL DISEASE.—We extract the following from the "Statistical Report of Five Hundred Cases of Aural Disease," read by Dr. D. B. St. John Roosa, before the New York Academy of Medicine, and published in the *N. Y. Med. Journal:* The cases presented were seen within a period of three years and a half, and taken from his note-book without choice or omission. There were eight of circumscribed or furuncular inflammation of the external auditory canal. Seven of these recovered. The local treatment consisted of an early and deep incision of the swelling, and the subsequent use of warm water and leeches. The early incision was of the greatest service. The eleven cases of diffuse inflammation of the external auditory canal recovered. In some of these a slight irritation of the part had been nursed into a severe and obstinate one by the use of ear-spoons, hair-pins, and stimulating

applications. In these cases, astringents were used, usually either alum or sulphate of zinc. Four of the five cases of eczema of the external auditory canal were cured by the daily cleansing of the canal and surface of the membrana tympani, and the use of nitrate of silver, sulphate of zinc, and similar agents. Forty-six of the cases are classified as inspissated cerumen. The patients in these cases were all more than 16 years old. Forty-two were cured by the removal of the mass. It was usually found to exist in both ears, although the patient was not always aware of any trouble in but one. The table embraces twenty-one cases of acute, simple, or catarrhal inflammation of the cavity of the tympanum, affecting one side; eighteen of these recovered, one was improved, in one case the result was unknown, and one patient died.

We next come to those cases which are by far the most numerous in aural practice, those known as simple chronic inflammation of the middle ear, chronic catarrh of the middle ear, catarrhal deafness, or chronic myringitis. Of the 500 persons embraced in this table, 245, or nearly 50 per cent., were victims of this disease. Only 11 were cured. Only one of the cases occurred in an adult, a male. Seventeen were much improved, that is, the hearing power was recovered sufficient for all ordinary avocations; fifty-six were improved. The eustachian catheter was used for forcing common air, vapors, and fluids, into the cavity of the tympanum, or as an irritant to the mucous membrane. There were eight cases of acute suppurative inflammation of the middle ear, affecting one side only; six recovered. Of the same form of disease occurring on both sides, there was only one case which was cured.

He reports forty-five cases of chronic suppuration in the cavity of the tympanum, affecting one side only. Five of these were cured, that is, the discharge was stopped, the membrana tympani healed, and the hearing improved. There were sixty-six cases where suppuration existed on both sides; only two recovered. Fifteen were much improved, twenty-seven were improved, nine were unimproved after considerable treatment. A little more than one-fifth of all the five hundred were cases of suppurative inflammation. Of the deaths, four in number, two were children, one ten, the other sixteen years of age; two were adults, one sixty, the other forty-five. In one case the intense pain occurring at intervals, and which was supposed to be a consequence of the suppurative inflammation of the middle ear, which destroyed the hearing power on that side, was due to the influence of Bright's Disease, which was afterwards developed.

Ten of the patients presented were deaf-mutes. Three were cases of tinnitus aurium, without the slightest impairment of hearing or any lesion in the auditory apparatus. There were 297 males and 203 females in the cases presented. About 35 per cent. of the cases existed one year, or less, before being seen by Dr. Roosa; 21 per cent. existed between five and ten years; 16 per cent. between ten and twenty years.

AMPUTATION OF THE SCAPULA.—Dr. P. H. Watson, Edinburgh (*Edinburgh Med. Journal*), records, in a well-illustrated article, a case of amputation of the scapula, in which the patient, aged 13 years, had his arm torn off by machinery. The ligatures were soaked in a strong carbolic-acid solution. The wound was washed out with a weaker solution of the acid in water,—1 to 40,—and the whole cutaneous surface was covered with a plaster composed of one part of carbolic-acid lotion to seven of the emplastrum spread upon lint. The patient was discharged cured on the 74th day after the injury occurred. In regard to the employment of carbolic-acid dressings, he has no hesitation in saying that he has been disappointed in his expectations. The cases of this character published by Dr. Stephen Rogers, of New York (9 in number), with an operation by Dr. Blackman, of Cincinnati, narrated in the *Cin. Lancet and Obs.*, in 1858, and one reported by Vincent Jackson in the *British Med. Journal*, and a case not published by Prof. S. W. Thayer, of Burlington, Vt., including two amputations recently made,—one by Dr. Schuppert, of New Orleans, La., and the other by Dr. P. H. Watson, of Edinburgh,—all amount to 14 cases of this difficult operation.

INFANTILE CONSTIPATION. — Eustace Smith, M.D., London ("Wasting Diseases of Children"), suggests that daily frictions over the belly with the hand, or with some stimulating liniment, are also very useful in promoting a daily evacuation. Dr. Merriman recommends the addition of aloes to the liniment: ℞ Tinct. aloes co., ʒ ss; Linim. saponis co., ʒ j. M. ft. linimentum. This should be rubbed into the belly every morning. If the child is twelve months old, aloes given by the mouth is warmly advocated by the late Dr. Dunglison. A drachm of the powdered Socotrine aloes should be dissolved in an ounce of simple syrup; of this one teaspoonful may be given, and may be repeated, if necessary, until a satisfactory stool is obtained.

TURPENTINE IN INFANTILE CONVULSIONS.—When convulsions continue in colicky children, and are not relieved by the warm bath, injections of warm water, brandy, or chloric ether, with an alkali, Dr. Graves recommends turpentine to be given:

℞ Ol. terebinthinæ ..... ʒ j.
Ol. ricini ..... ʒ iv.
Mist. acaciæ } ..... ää
Aq. cinnamomi } ..... ʒ iij.

M. ʒ j tertiâ quâque horâ.

This acts on the bowels, and produces a copious discharge of urine. — *Smith's Wasting Diseases of Children.*

THE DERMATOLOGICAL CLASSIFICATION.—In the year 1780, Plenck, the Hungarian nosologist, laid fully the foundation of modern dermatology, and gave his classification to the world.

DOSES FOR HYPODERMIC USE.—The following formulas for hypodermic injection have been recently prepared for a new Visiting-list:

Aconitine (*Aconitin, Off.*)—℞ Aconitine, gr. i.; aquæ destillatæ purissimæ, f ʒ ss. Misce et fiat solutio. Dose: *minimum*, ♏ ij. = $\frac{1}{120}$ gr.; *maximum*, ♏ iv. = $\frac{1}{60}$ gr.

Atropine (*Atropia, Off.*)—℞ Atropiæ sulphatis, gr. i.; aquæ destillatæ pur. f ʒ ss. Misce et fiat solutio. Dose: *minimum*, ♏ ij. = $\frac{1}{120}$ gr.; *maximum*, ♏ iv = $\frac{1}{45}$ gr. Adapted to pain in pelvic viscera.

Caffeine, Theine.—℞ Caffeinæ, gr. ij.; aquæ destil. bullientis, ♏ lxxx. Misce et fiat solutio. Dose: *minimum*, ♏ 20 = ¼ gr.; *maximum*, ♏ 40 = 1 gr. Neuralgia and alcoholic insomnia.

Strychnia (*Strychnia, Off.*)—℞ Strychniæ sulphatis, gr. ij.; aquæ destil. bullientis, ʒ i. Misce et fiat solutio. Dose: *minimum*, ♏ ij = $\frac{1}{120}$ gr.; *maximum*, ♏ iv = $\frac{1}{60}$ gr. Gastralgia and neuralgia of heart.

Morphine (*Morphia, Off.*)—℞ Morphiæ acetatis, gr. v.; acetici, ♏ i.; aquæ destil. bull. f ʒ i. Misce et fiat solutio. Dose: *minimum*, ♏ i. = $\frac{1}{15}$ gr.; *maximum*, ♏ vi. = ¼ gr. Ten drachms to a drachm can be dissolved by use of glycerine. Especially useful in delirium tremens and neuralgic pains.

Nicotine (*Nicotina*).—℞ Nicotinæ, gr. i.; aquæ destil. puris. f ʒ ss. Misce et fiat solutio. Dose: *minimum*,

♏ij. = $\frac{1}{120}$ gr.; *maximum*, ♏iv. = $\frac{1}{60}$ gr. Useful in tetanus.

Digitaline (*Digitalia, Off.*)—℞ Digitaliæ, gr. i.; aquæ destil. puris. f ʒ ss. Misce et fiat solutio. Dose: *minimum*, ♏ij. = $\frac{1}{120}$ gr.; *maximum*, ♏iv. = $\frac{1}{60}$ gr. Good in febrile conditions.

Calabar Bean (*Physostigma venenosum*).—℞ Extractum physostigmatos venenosi alcoholici, gr. ij.; aquæ destil. purissimæ, ʒ ij.; glycerinæ, ʒ i. Misce et fiat solutio. Dose: *minimum*, ♏20 = $\frac{1}{15}$ gr.; *maximum*, ♏40 = $\frac{1}{8}$ gr. In tetanus.—*Cin. Med. Repertory.*

Treatment of Acute Myelitis.—C. B. Radcliffe, M.D., F.R.C.P. (*Med. News and Library*), in his entertaining article on "Diseases of the Spine and of the Nerves," advocates but little active treatment in *acute myelitis*, but thinks that sesquichloride of iron would be likely to be of more real service than iodide of potassium. For his own part, he confesses to a feeling which makes him hesitate to employ either belladonna, or ergot, or strychnia in myelitis, or in any analogous condition, until he knows more of their action, or until he has more unequivocal empirical evidence of the good resulting from their use. Dr. R. is disposed to trust chiefly to full doses of this preparation of iron, to food and wine in no stinted quantities, and to the position recommended by Brown-Séquard for draining away blood from the spine,—a position in which the patient is made to lie upon his abdomen or side, with his hands and feet in a somewhat dependent position.

Almost Complete Ossification of the Human Body.—A singular case of ossification of the body of a youth is published by Wm. M. Byers, M.D., Columbus, Texas (*N. O. Journal of Medicine*): A boy of 17 came under his notice first about four years ago with extensive ossification of the muscular system, which continued to progress till his death, which occurred recently. He was a stout child at the age of eight months, at which time his parents removed to Texas by land. While camping out tumors were noticed in different parts of his body, the size of small marbles, very hard and painless. After an interval of 12 or 18 months, the tumors began to disappear by absorption, and stiffness of joints was manifested. Gradual anchylosis followed, and at the age of 10 years the hip joints and arms were completely anchylosed. He did not increase in stature after his tenth year. The deposition of ossific matter continued during his life, and when he died he was almost complete bone. Up to the hour of his death his mind continued clear and unimpaired, and his digestion until a short time previous was excellent. He suffered no pain, and was cheerful and happy.

The Principal Opposing Force in Dislocations.—Prof. Wm. Warren Greene, M.D. (*The Boston Med. and Surg. Journal*), believes that the main opposing force to the reduction of dislocations is the untorn portion of the capsular ligament; that in our efforts at reduction the primary object should be the relaxation of the untorn portion of this ligament, and that whatever mode of procedure accomplishes this with most facility is the best; that occasionally the small size or peculiar shape of the rent in the capsule, or, in peculiar conditions of the nervous system, muscular contractions, may constitute the major forces with which we have to deal; but that these cases are so extremely rare as not at all to invalidate the general rule.

Upon the theory that muscular contraction is the most powerful opposing force to reduction, a very large proportion of the difficult cases must remain unexplained; but upon the assumption that the untorn portion of the capsule is the principal agent with which we have to deal, everything becomes clear.

Morbid Growths within the Larynx.—A. Ruppaner, M.D., N. Y. (*N. Y. Med. Journal*), reports the removal of four cases of morbid growths within the larynx, and adds that there are several *desiderata* upon which the success of this distinct class of operations must depend. Some of these are yet to be solved satisfactorily, while others depend solely upon patient and operator.

1st. The want of a sure and safe local anæsthetic, to be used during operations within the larynx, is severely felt. Tobold uses cold water or strong alum injections, applied through one of Mathieu's or Lewin's *pulvérisateurs*. Dr. R. has found this method the most satisfactory in his practice. More than upon the action of anæsthetics the result of the operation depends, 2d, upon the due preparation of the patient for the operation, his individuality and disposition, the space and form of the larynx. 3d. The extent of the growth, and its mode of insertion, demand consideration, as elements entering into an operation. Every attempt to destroy a polypus by caustics is to be deprecated. 4th. In operations of this nature, the surgeon must act with skill and perfect composure. The left hand must be as serviceable as the right in using mirrors and instruments. A good light to illumine the throat and larynx must be commanded. In conclusion, he states that the admirable apparatus of Tobold, with three lenses, cannot be surpassed in simplicity, steadiness of light, and power.

Treatment of Aphthæ.—Eustace Smith, M.D., London, in his valuable treatise on "Wasting Diseases of Children," recommends, if *aphthæ* form, that attention be paid to cleanliness. A powder of rhubarb and jalap, with a grain of hydrargyrum cum cretâ, should be given to evacuate the bowels; after which the following mixture should be prescribed: ℞ Potas. chloratis, ↄ ij; Syrupi simpl., ʒ ss; Aquæ ad ʒ iij. M. ʒ ij quartâ quâque hora. This must not be diluted. When attacks of acute indigestion come on in infants, with hot skin, furred tongue, thirst, vomiting, and diarrhœa, accompanied by griping pain, all food must be stopped, and nothing allowed but cold barley-water. The stomach should be relieved by an emetic of ipecacuanha, after the action of which a purgative of rhubarb and magnesia should be given to clear out irritating matters from the bowels. A mixture of chalk and catechu, with aromatic confection, can then be given, or the following: Bismuthi nitratis, ʒ j; Pulv. cretæ aromat., ʒ j; Syrupi, ʒ ss; Mucilag. tragacanth., ʒ ss; Aquæ ad ʒ iij. M. ʒ ij ter die. If the diarrhœa continues after the tongue has become clean, half a drop of laudanum can be added to each dose of either of these mixtures, or small doses of sulphuric acid may be given with opium. ℞ Acidi sulphurici aromat., ʒ ss; Tinct. opii, ♏ vj; Syrupi, ʒ ss; Aquæ carui, ad ʒ iij. M. ʒ ij ter die.

When the irritability of the stomach has subsided, milk and lime-water may be given, but with caution, lest the vomiting return.

On Seatangle Tents.—Dr. Braxton Hicks, Physician, Accoucheur, and Lecturer on Midwifery at Guy's Hospital, in an interesting article "On Seatangle Tents," published in the *Practitioner*, points out the special advantages of tents made of *seaweed:*

1st. They can be made of any size, particularly much smaller than sponge-tents. 2d. They have more distending power. The rigidity of the inner os uteri is sometimes so great that even these tents are distinctly marked by it; but the sponge tents not at all unfrequently are unequal to produce any marked impression on the constriction. 3d. They do not retain the se-

cretions so as to produce so much offensiveness, consequently there is less risk of irritation locally or generally. 4th. By their greater rigidity they can be more readily applied, especially in a tortuous canal.

They have, however, some disadvantages: Their rigidity makes them not so suitable in cases where the uterus is bleeding or very tender; nor in cases where the os is somewhat dilated by a polypus or growth distending it. Here a sponge tent is best, unless the os and cervix are very rigid. Their great distensive force makes them less acceptable when the uterus is very irritable. They should be in all cases so made that no sharp edge be noticeable. In the tubular tents this is a point liable to be overlooked. And for the dilatation of the os uteri in a natural state, for purposes of induction of premature labor, these tents are not by any means so suitable as the sponge tents, or the India-rubber bags. With these exceptions, in cleanliness, certainty of action, ease of introduction, and minuteness, they are certainly not equalled by any other material at present in use.

Onychia.—Brice Smyth, M.R.C.S.L., Surgeon to the Belfast General Dispensary (*Jour. of Cutaneous Medicine*), states that *traumatic onychia* is more common in Belfast than in any other of the large manufacturing towns of England or Scotland; and this he attributes to the fact that the workers in the flax-spinning mills of Belfast usually go barefooted when at work, while at Leeds, Dundee, and other centres of the flax-spinning trade, they are accustomed to wear clogs or shoes. The disease usually attacks girls of a strumous or cachectic condition of system, and always those employed in the spinning-room; the nail of the great toe is the part usually affected.

The treatment of this form of Onychia must be both local and constitutional. The plan recommended by Dr. H. S. Purdon he has found very successful: Excision of the nail, followed by a lotion of one drachm of Fowler's solution to two of water. Sir Wm. Ferguson recommends, if the disease be seen in the earlier stages, the nail to be properly pared, or a section to be taken from it, and an application of nitrate of silver to the diseased part. In the majority of cases occurring in mill-workers there is more or less "nervous irritability," and in such individuals irritating applications tend to increase the local disease; consequently he has found that opium as a constitutional remedy and local application is the drug which he would place most reliance on in the earlier stages. When the nail has to be removed, which in the majority of cases is uncalled for, the ether spray should be used. Dressing the raw surfaces with carbolized oil, prescribing for the patient cod-liver oil and iron, will usually bring about a speedy cure.

Action of Viridiæ Sulphas.—Horatio C. Wood, Jr. M.D., Prof. of Botany in the Univ. of Penn. (*Am. Jour. Medical Sciences*), asserts that the commencing dose of viridiæ sulph. may be set down at the sixth of a grain, repeated every hour, and increased until the desired end has been reached. He has never observed any marked cumulative effect, and believes the alkaloid to be pre-eminently safe as compared with other remedies of equal power, *i.e.*, it would be much safer to reduce the pulse rapidly 20 beats per minute, and the force of the blood stream correspondingly with it, than with any other known remedy. The alkaloid (viridia) has all the properties and the peculiar sedative influence of veratrum viride, without the horrible nausea and vomiting which always occasion so much discomfort, and which in some instances endanger life.

If any case of poisoning from it should arise, the treatment should be such as would be suitable were veratrum viride itself the agent—perfect quiet in the horizontal position; brandy and ammonia freely; opium, or atropia cautiously; and, on general principles, strychnia.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, May 11, 1870.

Dr. J. C. Hutchison, President, in the Chair.

MORBUS COXARIUS, ETC.

Dr. Hutchison exhibited a patient aged 19, with specimens. Said patient entered the Brooklyn City Hospital eighteen months ago for a disease of the hip-joint, and stated that, when three years of age, he fell upon the left hip-joint, which so disabled him that he was compelled to use crutches for several years, and subsequently a cane. When he entered the hospital the leg was flexed upon the thigh, and the thigh was flexed upon the pelvis at an angle of forty degrees, and the leg was strongly adducted. Six weeks before his admission an abscess appeared behind the trochanter major, which opened, as did also another on the inner and upper portion of the thigh, with fragments of bone. At this time he was much emaciated and extremely feeble, so that he was confined to his bed until the operation.

By the use of tonics, cod-liver oil, etc., his general condition sufficiently improved to justify the operation. An incision was made from the ileum over the trochanter a distance of ten inches, exposing the upper portion of the femur. It was then ascertained that the head of the bone had disappeared, and that there was a diseased condition of the bone extending from the tip of the trochanter major down a distance of four inches. This was removed by the saw. It was found necessary to take away a large portion of the external table of the ileum, with considerable diploë. The knee was forcibly straightened, and the whole limb brought down and maintained in the proper position, by means of weights, the long splint and adhesive plaster, etc. The motion at the hip and knee joints was very limited, but at the time of reporting the case that of the knee-joint was quite perfect, and there was a great improvement in the hip-joint. The recovery was very tedious, but he was now able to follow his vocation of a cook, and walk around by the aid of a cane and stirrup. This latter measured six and three-quarter inches, but patient believed he could use one an inch shorter. The leg was in its proper position. The operation was performed sixteen months ago.

RESECTION OF SHOULDER-JOINT.

The President also presented the head and upper portion of the humerus, which he removed from a gentleman thirty-five years of age on the eighteenth of March last. This patient first came under the observation of Dr. John P. Gray of the State Asylum, Utica, who sent him to Dr. H. for treatment. Three years ago some pain in the shoulder had been complained of, attended with considerable swelling, which continued for several months. Finally, a discharge of matter occurred just above the outer portion of the clavicle, and also on the inner and upper portion of the arm. This was two and a half years ago. The pain was very much less than that usually found in joint affections in which the synovial membrane is primarily involved. Every possible attention was paid to his general health,

and while travelling abroad he consulted a surgeon of Bristol, who probed the upper opening with apparently an unsatisfactory result. When he presented himself to Dr. H. the openings gave the appearances of dead bone underneath, although none was detected with the probe. The patient was told that there was probably disease of the shoulder-joint, which should be removed. He consented to be anæsthetized for a more careful examination, and to have the parts excised in case the diagnosis was confirmed.

A straight incision was made from the acromion process down through the deltoid muscle, the muscles attached to the greater and lesser tuberosities cut loose, and the dead bone turned out and sawed off. At the point of the first section, the bone being found diseased, the saw had to be applied successively lower down until four inches in all were removed. A small piece of necrosed bone was also found in the centre of the glenoid cavity, which was detached and removed with an ordinary dressing-forceps. The arm was put up in Pomeroy's splint, a most excellent apparatus for this purpose.

Some of the periosteum was left in this case, but not as much as desired.

OVARIAN CYST.

Dr. Finnell presented a multilocular ovarian cyst taken post-mortem from the body of a lady seventy-three years of age. Five years ago she first noticed a gradual increase in the size of her abdomen, which continued until a year ago last April, when Dr. F. first saw her. She appeared then like a person suffering from ordinary ascites. She was tapped in the course of the year following twelve times. The following were the respective quantities, in pounds: 26, 20, 21, 19, 23, 25, 20, 19, and 18; making in all 245 pounds. At first it seemed as if there existed but cyst, as the whole swelling seemed to collapse after the tapping, but it was subsequently evident that lesser ones developed from the walls. The point of interest in the case was the small amount of adhesions present, and the breadth and thinness of the pedicle. The tumor after its removal weighed forty pounds. Barring the age of the patient, the case would have been an exceedingly favorable one for operation. The opposite ovary was in a perfectly healthy condition. In conclusion, he remarked that he tried to produce sleep in the patient, but failed with morphine, and succeeded perfectly with ten-grain doses of the hydrate of chloral.

Dr. Robinson asked if much sweating followed the administration of the latter remedy, and being answered in the negative, stated that he had a case in which that condition was very marked.

AORTIC ANEURISM.

Dr. Briddon exhibited a specimen of aortic aneurism removed from the body of a German 44 years old. He had enjoyed good health until a year ago, when he began to be troubled with cough; two months ago his cough became worse, and was accompanied with considerable expectoration and hoarseness. In the early part of April the expectoration was occasionally tinged with blood; he continued to work at his trade until the 20th of April, when he left for home and retired at an earlier hour than usual, complaining of feeling unwell. On the morning of the 21st he was found in bed, bleeding from nose and mouth, and unable to articulate. During the forenoon he became insensible and was seen by a medical man. Late at night he had another severe hemorrhage from nose, mouth, and bowels, and two other attacks before 9 A.M. on the morning of the 22d, when he died.

Inspection of the body found all the tissues blanched. Stomach was enormously distended with blood-clot, estimated at about a quart; intestines also contained blood in less quantity. Liver was slightly cirrhosed. Lungs contained no cavities, but the cicatrices of old ones. Heart was hypertrophied; valves sound. Second portion of aortic arch was dilated into a large aneurismal sac, or into two saccular pouches, separated by a constriction occupying the site of origin of brachio-cephalic vessels; the larger compartment lies in the concavity, but slightly in advance of the arch; its walls are considerably thickened; the smaller compartment lies immediately in front of trachea and œsophagus, and it has opened into the latter tube by a process of slough; its walls are thin and unsupported by adventitious tissue.

SUB-PERIOSTEAL EFFUSION OF BLOOD.—SEPARATION OF EPIPHYSIS, ETC.

Dr. Weir presented the lower extremity of a male child, aged one year, who died the day before at the Nursery and Child's Hospital. His attention was first called to the knee the beginning of the present month. An examination proved the joint to be sound, but that there was a swelling extending a considerable distance up the left thigh, which was most marked about an inch above the articulation. Grasping the leg and upper part of the joint, and making a slight alternate movement, slight crepitus was discovered. This trouble had existed three weeks in the child. He believed it to be a separation of the epiphysis consequent upon periostitis, coupled in all probability with osteo-myelitis, an opinion confirmed by the autopsy. The child had been run down very much by a pneumonia that had existed for two or three months, and also entero-colitis.

On removing the leg just below the knee, he was struck with the fact that the knife plunged through recently effused material. The periosteum was stripped up from the tibia for an inch to that point, and filled by a clot; the same condition of things extended to the ankle. From the fact that the clot surrounded the bone it seemed evident that the change was ante-mortem, the co-existence of a hemorrhagic diathesis helping to support such an opinion. The patient had previously suffered from rachitis.

SCIRRHUS OF PYLORUS, ETC.

Dr. Sprague, of Fordham, presented specimens of stomach and intestines removed May 1, from a female patient who first presented herself to him on the ninth of April. She had not had her catamenia since the July previous, and had been told she was pregnant. On a superficial examination of her swollen abdomen he was enabled to assure her to the contrary. She was very much emaciated, very feeble, and was just able to walk about; had been suffering a good deal for two or three days from nausea and vomiting. At first there was a good deal of tympanitis, which was afterwards replaced by serous effusion in the peritoneal cavity. Her urine was found loaded with albumen, and contained besides quite an amount of epithelial scales. She was put upon a course of hydragogue cathartics and diuretics without any very favorable result. Diarrhœa subsequently appeared and interfered with this plan of treatment, the discharges two or three days before death assuming a dark-greenish color.

At the autopsy, four hours after death, the heart and lungs were found healthy. The peritoneum contained two quarts of serum. The stomach was enormously distended with fluid of a dark-green color. The py-

loric extremity was the seat of a scirrhous cancer, which faded off towards the cardiac end. The gall-bladder was entirely impervious, and was reduced to the size of the finger. Over the whole surface, especially towards the mesenteric attachment, there were to all appearances small tubercular masses evidently subperitoneal. The peritoneal membrane was very much thickened, especially posteriorly. The valvulæ conniventes were curiously disposed, their long axes running in a direction opposite the usual one. The left kidney was the seat of tubular nephritis; the right was healthy. There were no tubercles in the intestines, nor in the lungs.

He exhibited the specimens for the sake of having it determined whether or not the masses supposed to be tubercular were really such, and moved that they be referred to the Committee on Microscopy.

The Society then went into executive session.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

STATED MEETING, APRIL 4, 1870.

DR. GEO. T. ELLIOT, PRESIDENT, in the Chair.

THE President announced the admission to membership of Drs. Henry E. Henderson, Horace T. Hanks, Joseph A. Monell, Simeon N. Leo, and Ralph L. Parsons. He reported the death, on the 2d inst., of Dr. Galen Carter, a member of the Society since 1828, and its President in 1853.

The report of the Committee on Intelligence was read by Dr. Thompson, and that of the Committee on Diseases by Dr. Raborg.

The weather being very inclement, and the attendance small, Dr. Austin Flint, Jr., moved that the reading of Dr. Lusk's paper on *Sugar-Formation in the Liver*, announced for this meeting, be postponed to a more favorable evening. Dr. Lusk expressed his readiness to read the paper to the present audience, but Dr. Flint's motion prevailed, and the President then called upon the mover to occupy the hour, suggesting as his subject the

PHYSIOLOGICAL EFFECTS OF MUSCULAR EXERCISE.

DR. FLINT, Jr., said that, upon so sudden a call, he could not be expected to give the subject any elaborate or systematic treatment; but it was one to which he had devoted considerable attention, and he would present some points which, though not wholly new, might yet not be without interest.

It was hardly necessary to state that the nutrition of the body is carried on in obedience to the demand created by the waste of its different tissues; and the fact was familiar to all physiologists of the present day that a physiological increase of this waste, within certain limits, not only promotes a more active nutrition of the several tissues, but also serves to develop what may be called their vital properties. To consider only the muscular system, which constitutes so large a portion of the organism, we know that muscles called into frequent exercise increase in size and power—the finger-muscles of the pianist, for example, become extraordinarily developed—while muscles less exercised are correspondingly weak. If any muscle is entirely disused, it undergoes atrophy, and after a certain time becomes reduced to such a condition that it is incapable of regenerating itself, even though the blood may contain all the materials necessary for its full nutrition. Paralysis illustrates this. When the nervous supply of a muscle is cut off its fibres become weaker, its circulation is diminished, and after a time we find, under the microscope, that the proper muscular substance—the musculine—has been replaced by a material physiologically inert, fatty granulations. By and by these granulations so far take the place of the functioning muscular substance, that even if the nerve-power be restored to it, the muscle cannot resume its function. The practitioner familiar with nervous diseases is well aware of this; and in a case of paralysis he first of all ascertains whether the affected muscles will respond to the stimulus of electricity. If they will so respond, then, even though all power of voluntary contraction be for the time lost, the methodical application of this stimulus will serve to maintain and increase nutrition, and, as a rule, the restoration of function is possible. But if it be impossible to make the muscles contract, however feebly, then there is little hope from any treatment. Diagnosticians go further, and, by the aid of a small trocar or harpoon, remove a little piece of the muscle for microscopic examination. In the muscles which show any contractility, they find the fibres with their characteristic striations, though mixed with the fatty granulations; while in those which show none, the fatty matter is found almost alone.

Muscular exercise increases the quantity of excrementitious matter produced in the system. On this point the speaker had no doubt, although there were some observations which might seem to show that exercise does not augment the amount of urea discharged in the twenty-four hours. Prominent among these were the well-known experiments of Fick and Wislicenus in their ascent of the Alps; and their results would seem lately to have been corroborated by Professor Haughton. These observations, when first published, the speaker had been disposed to receive with a good deal of doubt, and to examine critically for sources of error. For if urea be the most important of the excrementitious principles, as regards quantity, and if it be not increased, but rather diminished, by violent exercise, then we must make over again our physiology. Fick and Wislicenus, instead of comparing the discharge of urea under ordinary conditions of exercise and diet with that after extraordinary exercise upon ordinary diet, compared it with that after extraordinary exercise upon non-nitrogenized diet. Yet it is well recognized that the amount of this excretion depends in great measure upon the character of the food ingested. Professor Haughton's experiments were even more loosely conducted. He obtained his normal discharge of urea under ordinary conditions from observations made some years before, and compared this with the amount discharged (in the urine) under violent exercise taken in the heat of summer, and exciting profuse perspiration. Now urea is a constant constituent of the sweat; and Speck and others have established the fact that where violent exercise is taken under such conditions as to induce great diaphoresis, the amount of this principle eliminated by the kidneys may suffer no increase but even diminution, the skin relieving the kidneys of a portion of their work.

These experiments, therefore, by no means prove that muscular exercise does not increase the amount of urea discharged from the system. And in the same category are to be placed the observations of those who claim that extirpation of the kidneys does not produce accumulation of urea in the blood. If it is not established that urea is an excrementitious principle brought by the blood to the kidneys and simply eliminated by them—not *secreted* by the kidneys from materials furnished by the blood,—then all our experimental physiology is of little worth.

It seems certain, then, that exercise increases the

amount of effete matter eliminated. Within physiological limits, this increased elimination is attended, if proper nutriment be presented in the blood, by an increase in the activity of nutrition. If a man in perfect health, eating and drinking according to undepraved tastes, exercise his muscular system so as to increase to the highest physiological point the elimination of effete matter, he will correspondingly increase the nutrition of his muscular system. Nutrition consists in the appropriation by the tissues, from the blood, of new *functioning* matter,—in the case of a muscle, of musculine, in place of the worn-out matter discharged as urea, creatine, creatinine, etc.—not in the deposit of a functionless material, like fatty granulations. The more active this appropriation and the greater its amount, the higher will be the state of development of the muscle, and the better will it be able to do its work.

Now, if we can thus develop the functional capacity of the muscular system, and bring it to the highest point of efficiency, it is not unreasonable to suppose that the rest of the body will share in the improvement. We have, for example, an increased consumption of oxygen, an increased production of carbonic acid, and so increased functional capacity of the lungs.

Can a man, by such exercise, successfully combat the tendency to the deposit of foreign substances in the tissues; can he avert, for instance, the production of such heterologous formations as tubercle? The speaker, although from a limited experience, felt confident in answering "Yes." He had seen men of tuberculous diathesis, and with tubercle already deposited in their lungs, as testified by the best diagnosticians, go to the gymnasium and become hale and strong. He had in mind a young man, a patient of his father's, who had become a most accomplished gymnast after pulmonary tuberculosis had been clearly diagnosticated. In view of the principles before spoken of, it would seem that these men might, by increasing the deposition of normal material, have removed the disposition to the deposit of abnormal material. The speaker had, of late years, taken a special interest in examining this matter, for he had himself been subject to an affection which he thought might be relieved, and its effects averted, by systematic exercise. He had made trial of the plan, had been very constant and regular in his exercise, and had experienced the happiest results.

Let a man, moderately healthy, work as hard as he please with his brain,—if only he take the appropriate exercise to keep the system throwing off all the effete matter, and appropriating, in place of it, healthy, nitrogenized, functioning matter, he will be comparatively safe. It is surely better to be thus recruiting every day, and keeping one's self in a state of constant efficiency, than to break down every few months or years, and have to take a vacation to build up again.

Dr. Neftel, being called upon, spoke of the high standing of Fick and Wislicenus among physicists and physiologists, and of the real object of their experiments, which was to prove that in muscular exercise hydrocarbons are chiefly consumed, and to compare the mechanical power so generated with the amount of heat produced by their oxidation. As to the reaction of paralyzed muscles to electricity, it depended much upon the cause of the paralysis. In cerebral paralysis, the electro-muscular contractility was increased, as shown by Marshall Hall. In spinal paralysis it was diminished, though to this there were exceptions. In peripheral paralysis it was diminished to the induced current, but often increased to the galvanic current. These differences were so characteristic as to serve for diagnosis of the place of lesion in paralysis.

Dr. Folsom inquired of Dr. Flint whether the increase of a muscle in size was due to a deposit of sarcous elements within the existing fibres, or to an addition of new fibres. The latter would seem to be a higher process, as implying an increase of the formative force of the body—that force which determined the shape and size of all its organs. He wished to ask also the effects of muscular exercise upon the vaso-motor nerves; and the comparative effects of light and heavy exercise.

Dr. Flint, Jr., said that the first question, as to the mechanism of a muscle's growth by exercise, he did not think it possible as yet to answer definitely; though the view most in favor with the best pathologists seemed to be that no new fibres are developed, but that the muscle increases in size by the increase in size of its existing fibres. It was certain that the muscular fibres of men were larger than those of women, and those of a strong man larger than those of a weak one.

The second question he would not attempt to answer. Our knowledge of the vaso-motor system was still too imperfect. As to the relative value of light and heavy gymnastics, there were great differences with different individuals. It was probable that the very light exercises, such as swinging wooden dumb-bells or the lightest clubs, would effect comparatively little in the way of muscular development. The very heavy exercises—lifting weights of six or eight hundred pounds between the legs, putting up dumb-bells of seventy, eighty, a hundred pounds—though developing enormous power in a special direction, did not well develop the system generally. The men who could do these feats could do these alone—they were stiffened for everything else. The exercises which professional gymnasts found the best for their general development were those of a moderately heavy character continued for a long time,—the pulling of weights, or the swinging of dumb-bells, weighing eight or ten pounds, for hundreds of times. Such exercises were very fatiguing, and their practice developed great endurance.

Dr. Chadsey had found well-directed exercise an invaluable therapeutic agent in numerous cases of pulmonary and other diseases, some of which he related. The exercise should be such as to increase the flow of blood to the diseased part, and in affections of the lungs such as to develop the muscles of respiration. In a case of advanced muscular atrophy, exercise, dry heat, and electricity were bringing about a rapid restoration.

The President was profoundly convinced that one of the most important elements of success in solving the difficult problem of the treatment of diseases of women, consisted in securing such a mode of life as would compel muscular activity and so equalize the circulation. For many patients he was in the habit of ordering localized movements, shampooing, etc., until they were able to take out-of-door exercise. In a large class of cases of anæmia and amenorrhœa, where the patients complained of weakness, wanting to keep in the house and loll on the sofa, he had more confidence in this physiological mode of treatment than in all others. If this were properly followed out, the local treatment now so much in vogue, and the ever-ready resort to the speculum, might commonly be dispensed with.

The President announced the names of the delegates to the American Medical Association, after which the meeting adjourned.

Syphilides.—This affection comprises, on an average, about one-eighth of all skin diseases.

Correspondence.

ATROPINE VERSUS OPIUM.

To the Editor of the Medical Record.

Sir—I send you the following "Notes" as further proof that we have in Atropine a ready, safe, and reliable antidote to the poisonous effects of opium:—

April 11th, 1870, at seven P.M. was called to see Mrs. S. W——, American, twenty-nine years of age, of frail build, but in good general health. Had known her to be of intemperate habits, and had several times seen her in convulsions apparently from the effects of excessive indulgence in ale. Found her motionless, comatose, pulse 120 and feeble, no power of deglutition; pupil "contracted to a point;" respiration six to eight per minute; inspirations short and stridulous; countenance livid; frothy mucus escaping from the mouth; sensibility destroyed. On inquiry found she had long used morphine from habit, and that at three P.M. she had obtained at a drug-store and taken at one draught three grains of the drug. When found at six o'clock she could with difficulty be kept awake, although answering a few questions intelligently. Soon after went into the condition described above.

Ordered sinapisms to extremities and spine, and as soon as possible, or at 7.30 P.M., prepared and injected hypodermically into the inside of the forearm one-sixteenth ($\frac{1}{16}$) of a grain of sulph. of atropine dissolved in equal parts of alcohol and water, the whole quantity thrown in amounting to fifteen drops. Pulse at that hour 120; respiration eight per minute; inspiration short, sharp, and guttural; pupil contracted to its utmost.

8 P.M. Pupil a trifle larger, and evidently feeling the atropine; respiration 12; pulse 112.

8.30 P.M. Pupil dilated to the size usual in a shaded room; respiration 17; pulse 112; lividity much cleared up.

9 P.M. Pupil widely dilated; respiration 18; pulse 120 and very feeble; lividity of countenance but slight.

9.30 P.M. Same. Respiration short and stertorous; pulse very feeble at the wrist.

10 P.M. Pulse 120 and fuller; respiration 14; inspirations full and wavy, but loud snore heard over the whole house; color and heat returning to the forehead and cheeks; extremities cold; pupils widely dilated; mouth moistened naturally by saliva.

10.30 P.M. Respiration 20 per minute; inspiration much shorter than at last entry, with the sharp, stridulous, croupy sound; pulse 112 and very feeble; countenance pale but not livid; extremities cold; pupil as before, well dilated; no sensibility of surface; jaws rigid.

11 P.M. Has improved much in last half hour. Resp. 15; insp. full and easier, but croupy; pulse 120, and much improved at the wrist; heat of head normal, and warmth returning to extremities; pupils a trifle less dilated; no response when subjected to strong light.

11.45 P.M. Remained as at last entry until 11.25, when breathing almost ceased, pulse went down, and countenance became livid. Resorted to artificial respiration for 15 minutes with marked relief. At this hour respiration is 7 per minute and full; pulse 140, and becoming stronger and fuller; color and heat returning to face; pupil as before.

12 midnight. Pulse 120, fuller; resp. 10; pupil same; heat of head good, and color improving; inspiration deep but noisy.

12.30 A.M. During last half hour resp. remained at 10. At this hour it flagged again, but artificial respiration has again restored it to 10 per minute, with pulse at 152; extremities warm, pupils slightly less dilated. No response yet obtained by pinching or pricking the surface, tickling the nostrils, or touching the eyelashes.

1 A.M. Same as last note.

2.30 A.M. Have slept myself since last entry. All has gone on well; pulse now 132, quite full; resp. 8 per minute; inspiration deep and smooth, the whistling sound having ceased; pupil contracted to nearly normal size, but uninfluenced by the light of a kerosene lamp; titillation of eyelashes produces some muscular action of the lids, but a feather placed in the nostrils has no effect; countenance flushed, and general natural warmth over the whole body.

3 A.M. Pulse 136, and full; resp. 10, smooth and free from stertor; pupil but slightly larger than natural; surface warm and moist with perspiration. Will now leave the patient with some confidence that the danger of fatal result is passed, but to be called if bad symptoms return.

8.30 A.M. Found patient wide-awake and wondering at the strange stories of the night past. Learned that half an hour after I left (3 A.M.) patient suddenly roused up and vomited freely a very black, thin, watery substance. Then slept until 7 A.M. Since then has been awake, *scratching* off the effects of the opium. Has vomited again during the last hour, and is very thirsty. She will be more careful in regulating the future use of her *nervine*, and imagines it hasn't been so big a storm after all.

Will be up and about to-day. Was giving directions to have her "paper" brought over. I am firmly persuaded that but for the antidotal effects of the atropine the patient would have succumbed to the narcotic effects of the morphine in less than an hour after I first saw her.

H. C. May, M.D.

Corning, N. Y., April 26, 1870.

Medical Items and News.

Rokitansky.—The eminent pathologist, Rokitansky, has been elected President of the Imperial Academy of Science at Vienna.

A very Old Woman.—In the town of Killingly, Conn., Mrs. J. P. Plank still lives, at the ripe age of 105 years.

Case of Trance.—A remarkable case of this character has just occurred in Newcastle. Recently the wife of a blacksmith, who had been ill for a short time, was supposed to have died, and a coffin was procured. As the lid was being screwed down the body was noticed to move, and the woman was saved from being buried alive.—*London Med. Mirror.*

Medical "Wrinkles."—The quaint and practical Thomas Inman, M.D., of Liverpool, in one of his readable essays on the "Restoration of Health," thus remarks: "Do you wish to ascertain the health of a baby, feel the condition of its buttocks. If these are firm and elastic, one may always be sure that the little one is strong and well; but if, on the other hand, they are soft, as if they were boiled turnips in a bladder, it is certain that the child is out of sorts."

Death in Forty Hours from Scarlatina.—Dr. J. J. Thompson, an English regimental surgeon, stationed at Warley, relates the case of a young recruit, with

malignant scarlet fever, admitted into hospital in the evening, having attended drill in the morning, on account of a very sore throat and high pulse. He died within 40 hours.

TETANUS PRODUCED BY THE ADMINISTRATION OF QUINIA HYPODERMICALLY.—A case of this character is reported by E. Paul Sale, M.D., Aberdeen, Miss., in the *N. O. Jour. of Medicine*. The patient, aged nineteen, mother of twins, æt. three months, was suffering from *malarial coma*, the result of a tertian intermittent fever of two months' duration. Desiring to rapidly quininize her, he administered in the arm, by hypodermic injection, quinia, gr. vj., of an ethereal solution.

Four days afterwards the arm was much tumefied, hot, and very painful to the touch, when the syringe was inserted. Twelve days from the injection, Dr. Sale was summoned to the patient's bedside to prescribe for trismus with opisthotonos; but she succumbed after receiving the best of treatment. The chief point developed by this case is this: It shows the deleterious effects which frequently follow the use of quinine hypodermically. This is the fourth case out of ten in which he has had cause to regret resorting to this method of medication, on account of the violent inflammation which has been the sequence.

A CASE OF SCHERODERMA OR SCLEREMA.—W. De F. Day, M.D., of New York (*Am. Jour. Med. Sciences*), reports a fatal case of this disease occurring in a male, æt. 37. The first case was observed by Curzio, in 1755. The present one makes the forty-fourth recorded, and the autopsy the seventh. It is a disease of middle life. In thirty-nine cases it has occurred twenty-four times between the ages of eighteen and thirty-five years. As to sex, out of forty-four cases, thirty-one have been women and thirteen men.

A NEW HAMPSHIRE PHYSICIAN MULCTED.—Dr. Greenleaf C. Clough, of Greenland, N. H. (*Medical and Surgical Reporter*), a few days since paid the sum of $1,000 for malpractice in setting a leg.

DEATH OF THE HEAVIEST WOMAN IN NEW ENGLAND.—Mrs. Susan Brown, of Monroe, N. H., weighing 500 pounds, died a short time ago, aged 75 years.

AVERAGE DURATION OF LIFE.—Dr. Pavy, the noted London physician, states that the average duration of life among the Jews is 37 years, while among Gentiles it is only 26.

SPOTTED FEVER IN GEORGIA.—One hundred and fifteen persons died with cerebro-spinal meningitis in Coffee county, Ga., in the month of March.

Malignant epidemics of this disease are prevailing, besides, in parts of Mississippi, Florida, South Carolina, and Pennsylvania.

A NEW INSECT DISCOVERED.—A New York correspondent of the *Medical and Surgical Reporter* informs us that Professor Samuel Jackson, of the Microscopical Society of New York, exhibited a new insect, called the *Tingis arcuata*, which he found up the Hudson, on the buttonwood tree. Under the microscope it is a fierce-looking animal.

A NEW WESTERN MEDICAL JOURNAL.—A creditable medical journal has recently been started by the Faculty of the Medical Department of the University of Michigan, Ann Arbor, entitled *Michigan University Medical Journal*. The April number contains creditable papers on "Sympathy," by A. B. Palmer, M.D.; "Pharmaceutical Chemistry," by A. B. Prescott, M.D.; and "Fracture of the Parietal Bone and Base of the Skull," by S. W. Davis, M.D., with comments by A. B. Crosby, M.D.

PHYSICIANS AND DRUGGISTS IN AMERICA.—Dr. A. B. Prescott, of Ann Arbor, Michigan, states that there were 55,000 physicians in this country at the last census, and 11,000 druggists. At present there are about 74,000 physicians.

THE TREPHINE.—Professor A. B. Crosby, M.D. (*Michigan University Medical Journal*), while alluding to a case of fracture of the parietal bone and base of the skull which terminated favorably, remarks:—"It is by no means certain that we might not say of the trephine, as Holmes once said of calomel, that if it were 'cast into the sea it would be all the better for men, and all the worse for fishes.' Certain it is that the trephine should only be employed as a *dernier ressort*."

THE SICK.—There are in the United States 1,360,000 "constantly sick," or twenty-four to each physician.

In the United States Army, one medical officer is provided to 333 men in regiments.

THE MANUFACTURE OF GLYCERINE IN CINCINNATI.—According to the *Cincinnati Lancet and Observer*, W. J. M. Gordon, a practical chemist of Cincinnati, makes a superior quality of glycerine in his extensive laboratory. Twenty thousand dollars a year are paid out to one house in that city for refuse material for the manufacture of glycerine, which formerly went out into the city sewers. So much for utilizing the waste products.

A NEW MEDICAL JOURNAL.—A medical journal for the practitioners of the State of Georgia will soon be brought out at Atlanta, by Dr. Love, of Albany, Ga.

THE FRUITS OF THE PUBLICATION OF MEDICAL CASES.—The *Lancet* asserts that Elliotson, in consequence of the cases he sent them in one year, passed from five hundred to five thousand a year. Professor Owen was brought into reputation by his first surgical paper respecting a particular aneurism.

A DESCRIPTION OF GOUT.—A Frenchman has thus described this affection:—"Place your joint in a vice and screw it up until you can endure it no longer. That may represent rheumatism. Then give the instrument another twist, and you will obtain a notion of the gout."

A CHAIR OF THE HISTORY OF MEDICINE.—The late M. Salmon de Champotran, of the Council of State, Paris, left to the Faculty of Medicine of Paris a legacy to found a chair of the history of medicine. M. Bouchut is the prominent candidate.

INJECTIONS IN DYSENTERY.—W. H. Davis, M.D., Springfield, Ill. (*Chicago Medical Times*), advocates, when there is a great tendency to putrescence, an injection composed of creasote ʒ j. to a pint of starch water, injected in large quantities.

MUSK IN HICCOUGH.—J. E. O'Brien, M.D., Phillipsburgh, N. J. (*The Chicago Medical Journal*), relates a case of hiccough, occurring in an erysipelatous patient, in which *musk* was successfully given to stop it, and prevent death from exhaustion. He remarks that it is very difficult to get pure musk, but succeeded in obtaining from the old drug-house of W. H. Schieffelin & Co. two fine specimens of the glands from Moschus moschiferus, containing about ʒ ij. of powder each; price $18.40. From January 21st to 28th the man hiccoughed almost constantly; after the latter date he gradually gained strength, and February 20th was able to walk about. Drs. Cavenagh and Field, of Easton, and O'Brien, are satisfied that pure musk saved the patient.

THE SOCIETY FOR THE PROTECTION OF INFANTS.—This Society held an enthusiastic meeting at Paris, Jan. 23d, 1870. Dr. Boudet was elected President, and Dr. Mayer, Secretary. It has 973 members, and 327 medical inspectors.

MEDICAL LISTENERS IN VIENNA.—Professors Hyrtl and Brucke, of Vienna University, have each from three hundred to five hundred listeners, and only seats for half that number. The Government, however, was severely taxed to build new palatial barracks for soldiers, and to pay the expenses of the king's journey to Egypt, etc., and could not erect a new university, therefore the number must be diminished.

HOW ABSCESSES ARE MANAGED IN VIENNA.—According to the Vienna correspondent of the *Chicago Med. Examiner*, opening abscesses and buboes under water, and applying plaster of Paris, is being tried here with quite satisfactory results.

THE FORM OF NOURISHMENT IN INFANTILE DYSPEPSIA.—Dr. Eustace Smith, of London (*Am. Journ. Obstetrics*), recommends as a good food, in cases where a return to the breast is impracticable, whey, made fresh as required by adding prepared rennet to cow's milk in the proportion of a teaspoonful to the pint. To two tablespoonfuls of the whey add one tablespoonful of fresh cream, and dilute with two tablespoonfuls of hot water. Of this food small quantities can be given at regular intervals, and care must be taken that it be either hot or cold, but not tepid, as liquid food given in a lukewarm state would be apt to favor a return of the vomiting. Liebig's food for infants, carefully prepared with freely diluted cow's milk, will often be borne; but in very bad cases it is inferior to the diet just alluded to. In addition, the waning powers of life must be supported by five-drop doses of pale brandy, given in a teaspoonful of the food every hour, or even oftener.

EXAMINATION OF THE URINE IN CASES OF PUERPERAL CONVULSIONS.—Prof. George T. Elliott, M.D. (*Am. Journ. Obstetrics*), advises practitioners, in an interesting and practical clinical lecture on "Puerperal Convulsions," to carefully examine the urine, so as to ascertain whether the kidneys are doing their work. Drawing it off with the catheter for twenty-four hours is the only way to be absolutely sure; then measure the amount, to know how much is passed; examine the residuum with the microscope, testing it as it comes for albumen, and then making a quantitative analysis for the urea that is being excreted. When the amount of urea comes to the full normal standard, and all other conditions correspond, the kidneys may be considered as doing their work.

AN ENDOWMENT TO THE ALBANY MEDICAL COLLEGE.—Dr. Thomas C. Durant has presented this Institution an endowment of $15,000.

AKAZGIA—A NEW ALKALOID.—At a recent meeting of the Polytechnic Association of the American Institute was described a new alkaloid found by Dr. Frazer, of Edinburgh, in specimens of the Akazgia plant brought from the west coast of Africa, and which he supposed to be a new species of Strychnos. Akazgia is a crystalline alkaloid closely resembling strychnia, but differing from it by being precipitated by alkaline bicarbonates.

THE GLYCOGENIC FUNCTION OF THE LIVER FIRST ANNOUNCED.—In 1849, M. Claude Bernard first described this important function of the organ, by the name of the "glycogenic function of the liver."

THE DISCOVERER OF THE OVULAR THEORY.—M. Pouchet, Professor of Zoology in Rouen, in 1842, first published his monograph entitled "Théorie Positive de la Fécundation," in which the discovery of the ovular theory was announced.

SOME OF THE POPULAR THERAPEUTIC AGENTS.—Edward Montgomery, M.D., St. Louis, Mo. (*St. Louis Med. and Surg. Journal*), while discoursing on the "Rise and Fall in Popular Favor of some Drugs," remarks, that it is rather strange that most of the therapeutic agents now so popular and in most constant use are of recent origin. The cinchona tree, from which is taken the Peruvian Bark, was only brought into notice as a medicinal agent in the early part of the seventeenth century, and first prominently introduced into medical practice in France by Sir John Talbot, in 1679. Dr. Duncan, author of the *Edinburgh Dispensatory*, first detected the feasibility of isolating and extracting the active principle of the bark as early as 1803, but it was not until 1820 that Pelletier and Caventon published their success in obtaining the alkaloids cinchonine and quinine. Iodine was not discovered until 1811, when M. Courtois, a chemical manufacturer of Paris, gave this valuable preparation to the world. It is only forty-three years since M. Ballard, of Montpellier, discovered in the crystallizable residue of sea water (bittern) that now popular chemical called bromine.

MILLINGER'S TREATMENT OF CHRONIC OTORRHŒA.—N. C. Washington, M.D. (of St. Louis), Vienna, Austria (*The St. Louis Med. and Surg. Journal*), calls the attention of the profession to the following method of treatment, first introduced into practice in Vienna by Dr. Edwin Millinger, clinical assistant to Professor Politzer. The method consists, first, in insuring the passage of air into the tympanic cavity by the ordinary methods. The Eustachian catheter is then introduced, and firmly fixed in position. Then, with a syringe adapted to the catheter, tepid water is passed carefully through it. The pus is thus made to pass partly out through the perforated membrana tympani, and partly into the pharynx, by the side of the catheter. After thus literally bathing the diseased surfaces, a weak disinfecting solution of hypochlorite of soda is injected, to be followed by a weak astringent solution, either zinc or silver. Solutions of sulphate of zinc or nitrate of silver are the best astringents for use in the manner described, and for instillation into the external meatus. The relief from pain is almost immediate, the cure speedy and permanent. The theory of the treatment lies in the principle of securing perfect cleanliness.

New Publications.

BOOKS RECEIVED.

SURGICAL MEMOIRS OF THE WAR OF THE REBELLION, Collected and Published by the United States Sanitary Commission. I. On the Wounds of Blood-vessels, etc. II. Secondary Traumatic Lesions of Bone; Osteo-Myelitis, Periostitis, Ostitis, Osteo-Porosis, etc. III. On Pyæmia. By John A. Lidell, A.M., M.D. Edited by Prof. Frank Hastings Hamilton, M.D. Published for the U. S. Sanitary Commission, by Hurd & Houghton, N. Y., 1870.

ANATOMY, DESCRIPTIVE AND SURGICAL. By Henry Gray, F.R.S. New and enlarged edition, with additional engravings. Philadelphia, Henry C. Lea, 1870.

A TREATISE ON MEDICAL ELECTRICITY, etc. By Julius Althaus, M.D., M.R.C.S., etc. 2d edition. London, Longmans, Green & Co. Phila., Lindsay & Blakiston, 1870.

NOTES on the Physiology and Pathology of the Nervous System, with Reference to Clinical Medicine. By Meredith Clymer, M.D., Univ. Penn. N. Y., D. Appleton & Co., 1870.

Original Lectures.

LECTURES
ON
THE PALSIES
AND
KINDRED DISORDERS OF THE NERVOUS SYSTEM.

By MEREDITH CLYMER, M.D.

Lecture II.

Physical Diagnosis of the Diseases of the Cerebro-spinal Axis—(A) Perversions of Contactile Sensibility—Æsthesiometry—Relative Estimate of Weight—The Muscular Sense—(B) Perversions of Temperature—(C) Perversions of Muscular Power—Dynamometry—(D) Structural Perversions of the Optic Disc—Cerebroscopy—(E) Diagnostic Value of Electricity.

The diagnosis of many of the disorders of the nervous system may be greatly helped by investigating conditions suspected to be present by means of certain instruments of precision. By their intelligent use we find out the relation of the observed phenomena to given morbid states of the brain and spinal cord, and fix their symptomatic worth. This constitutes the

PHYSICAL DIAGNOSIS

of the diseases of the cerebro-spinal axis. The conditions to be especially noted are, perversions of function in the skin and muscles, altered thermal conditions in certain districts of the body, and changes in the blood-vessels and in the nutrition of the interior of the eye, particularly of the optic disc. These may be considered under the several heads of: (*A.*) Perversions of Contactile Discrimination, used preferably to Weber's term "tactile sense;" (*B.*) Perversions of Temperature; (*C.*) Perversions of Muscular Power; and (*D.*) Structural Perversions in the sight-organ or eye.

(*A.*) Two kinds of sensibility exist in the skin and in the mucous membranes around the natural orifices. The one is ordinary tactile sensibility, or the sense of touch, which, exercised in its simplest form, gives the idea of resistance, and, in connection with the so-called muscular sense, enables us to judge of the characters of external bodies, as their smoothness of surface and their form; and the other is the sense of pain, including the appreciation of heat and burning. The skin may lose the sense of pain without tactile sensibility being modified. Gentle rubbing of the finger over the skin may be felt, whilst there is total insensibility to pricking and pinching, and burning; but the converse is not true, for when contactile discrimination is lost, the sense of pain is always wanting. The sensation of tickling is included under the head of tactile sensibility.

The modifications of contactile discrimination are (*a*) increase—*hyperæsthesia;* (*b*) diminution or loss—*anæsthesia;* and (*c*) retardation in the transmittal of the impression—*dysæsthesia*, or *bradyæsthesia*. The loss of the sense of pain is *analgesia*.

The perfectness of the sense of contactile discrimination depends on the integrity of three concurrent factors: namely, (1) the sensitive nerve-extremities to which the stimulus is applied; (2) the afferent nerve-fibres which carry the impression to the centre; and (3) the centre which may receive the impression and transform it into a sensation. If any one of these is damaged, diminution or loss of sensation must follow. If the centre cannot receive and act upon the transmitted impression, there can be no sensation. If the nerve-fibre is injured to an extent to destroy its conducting ability the impression cannot be sent inwards, and consequently be perceived.

We are able to measure more or less accurately the degree of contactile discrimination by applying the results of the observations of Professor Ernest H. Weber, which show the discriminative faculty which the skin possesses of recognizing double impressions made upon it within a given limit, but varying in different parts of the body. This has been called the "sense of 'space' or locality." His mode of ascertaining this was to touch the surface with a pair of mathematical compasses, whose points were covered with pieces of cork, and then, the eyes being closed, their legs were brought towards each other, until they were at the smallest distance they could be felt as two bodies, called by Dr. Graves "the limit of confusion." Weber found the extremes to vary from half a line on the point of the tongue to thirty lines in the skin of the back and the middle of the thigh. A series of similar experiments were reported by Dr. Ballard in the *Lancet*, 1862, vol. i., p. 303, in which he found in the hand the tip of the index finger was the most, and the dorsal surface of the base of the fifth metacarpal bone the least, sensitive part; the "limit of confusion" in the former being 0·35 of a line, and in the latter 5 lines. The parts in which the sense of touch is least acute are, the neck, the middle of the back, the middle of the arm, and the middle of the thigh; the other parts of the body possessing various intermediate degrees of sensibility. At the tips of the fingers and the point of the tongue it can be distinguished most readily in the longitudinal direction; whilst on the dorsum of the tongue, the face, neck, and extremities, the discrimination is more delicate with the points placed transversely. As a general rule, it would seem that the sensibility of the trunk is greater on the median line, both before and behind, and less at the sides. But subsequent observations have shown that there is much individual variation in the "limit of confusion," some persons in a perfectly healthy state, as regards their nervous system, being able to distinguish the points at one-half or even one-third of the distances that can be done by others. Czermak has shown that two points may be brought together much more nearly, and yet be distinguished as two, when applied one after the other, and not at the same time. The delicacy of the perception would seem to be blunted if the skin be either artificially or naturally stretched. I refer you to the various works on Physiology for the tables of Weber and others, giving the tabular results, with the maxima and the minima.

Weber's physiological observations were first applied clinically, as a method of detecting and measuring the modifications of contactile sensibility in the diseases of the nervous system, by Dr. Brown-Séquard, in 1849, and called *Æsthesiometry*. He claims by the aid of this method, that: (*a*) any slight increase or decrease of contactile sensibility may be readily recognized, which may not be discoverable by any other means; (*b*) the degree of increase or decrease may be exactly measured; and (*c*) changes in the degree of existing hyperæsthesia or anæsthesia may be accurately ascertained. He first used a pair of common compasses, as found in any mathematical instrument case; but in 1858 he had made an ingenious instrument, which is in general use, and called an æsthesiometer (Fig. 9). It is a decimetrical rule, much like a shoemaker's measure, and graduated to millimetres. At one end is a fixed

branch; another similar one slides on the rule, marking the distances at which the points begin to be felt when

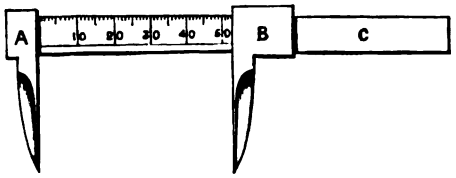

Fig. 9.—Æsthesiometer of Brown-Séquard.

applied to the skin. When used, it is held on its flat sides, near its centre of gravity, by the thumb and three last fingers, whilst the index, slightly bearing on the back of the rule, regulates the contact of the points with the skin, which must be in exact parallelism to the surface. About the same time Dr. Sieveking, of London, devised an instrument on the same principle, but with a shorter handle. Later (1859) Dr. John W. Ogle, of London, believing that an instrument which combined the principle of the beam compass with that of the two-legged, proposed his *aphemetric compass*. Messrs. G. Tiemann & Co., of New York, have made a convenient æsthesiometer by adding a brass scale to one of the limbs of the ordinary mathematical compass. Its fault is its unnecessary length (Fig. 10). The in-

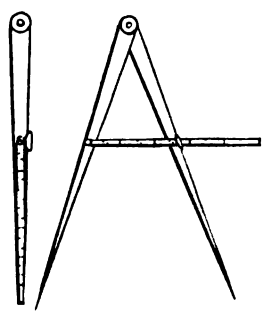

Fig. 10.

strument I prefer is the one made for Dr. Jaccoud by Robert and Collin, surgical cutlers, of Paris. It is nine centimetres long, is provided with a movable scale in the form of an arc of a circle, and folds up in a small space, so as to be easily carried.

Dr. Brown-Séquard remarks in his excellent article on Æsthesiometry in the *Dictionnaire Encyclopédique des Sciences Médicales*, t. 2ième, that for those who treat nervous diseases the æsthesiometer is as indispensable as is the stethoscope for those who treat diseases of the heart; and there is no doubt that, when understandingly used, it not only measures with great nicety the degree of contactile discrimination, and thus ascertains its perversions, but often aids us in making out the precise site and nature of the disorder, particularly if the disease be at the base of the brain, or in the spinal cord. In many instances where the ordinary methods show no loss of sensibility, æsthesiometry will demonstrate that it is notably impaired.

In practising æsthesiometry the following rules should be closely observed. 1. The points of the instrument should be covered with bits of cork, for the slightest prick will interfere with the accuracy of the perception of the impression. 2. The points must be exactly and simultaneously applied. 3. The patient should not see the application of the instrument, although his attention should be alert, nor should he be told beforehand the precise bearing of the experiment. To try accurately the degree of his "sense of space," it may indeed be proper to let him sometimes suppose that only one point is applied, or again both points, when the reverse is the case, to guard against the effects of the imagination. In such cases one point only may be applied, and then, after the patient has asserted that he feels both, let him be convinced that only one has been used, so that a right conclusion may be had as to whether the patient judges by his sensations or by a preformed notion.

You have been already told that the natural distance-limit, the "limit of confusion," is not the same in all parts of the body, but it usually does not vary in the same district in different persons. The normal distance-limit is the same, or nearly so, in corresponding parts on the right and left halves of the body. Before beginning an investigation of the degree of tactile discrimination in the parts where some modification is suspected, the æsthesiometer should be applied over a healthy portion of the skin, the two points being so arranged that the impression of one and two points can each be felt. The instrument should then be changed to the part whose tactile sensibility is to be explored, and the two points applied at the known normal distance-limit; if one point only is felt the instrument is lifted off, and the two points are gradually separated from each other and reapplied, until both are felt. Both the existence and the amount of anæsthesia are thus known and measured. If the two points are felt at the normal distance-limit they are gradually brought together, and their application repeated until there is a sensation of only one point. In this way we measure the degree of hyperæsthesia. The æsthesiometer should not immediately be reapplied upon the same point of the skin, for the feeling of contact often lasts for half a minute, and thus, after one or two applications, two points may be felt instead of one. Where the perversion of tactile sensibility is limited to a very small area, a half minute should elapse before the instrument is reapplied.

Where the anæsthesia is of some extent, the two points may be applied one after the other, with intervals of forty or fifty seconds, and yet give the sensation of only one point; this is due to the slowness of the transmission of the impression—dysæsthesia or bradyæsthesia. The æsthesiometer here will measure the *rapidity of the transmission of tactile impressions*, and this is of grea timportance in some affections of the cord, as, for example, locomotor ataxy.

When a great degree of anæsthesia exists, the two points of the æsthesiometer are felt only as one, no matter how large the space between them, always provided that they are applied upon the same longitudinal line. Brown-Séquard mentions an instance where one point was placed on the wrist and the other well up on the forearm, and yet there was a sensation of one point only.

But the degree of hyperæsthesia may be such, that, no matter how close the two points may be, both continue to be felt. In a case of chronic spinal meningitis, tactile sensibility was so much heightened that the patient felt both points applied to the thigh at a distance of one millimetre apart, whereas the limit of confusion was five or six.

When the patient is taking either strychnia or belladonna, it should be borne in mind that both drugs modify the sense of space, the former increasing and the latter lessening it; therefore, in such cases explore first

very carefully the healthy portions, and establish the actual normal type.

In certain cases, when two points of an æsthesiometer are applied, a distinct sensation of three points is felt; or two points are felt when one is applied; this condition is connected with disease of the base of the brain, and its sites are the face, neck, and hand, but especially the face. Some interesting instances are mentioned by Dr. Brown-Séquard (*Archives de Physiologie*, année 1868, t. 1er), as when the distance between the two points of the instrument was two centimetres, two, or sometimes but one, point was felt; but at two and a half or three, or even at four centimetres, there was a distinct sensation of three points.

In connection with contactile discrimination we may also study the relative *appreciation of weight* or *pressure* when applied to the surface, the part experimented on being supported, as when the hand is laid upon a table. Aubert and Kammler found that on the face and back of the hand, the pressure of a square piece of elder pith, with a surface of nearly one-third of an inch, and weighing one-thirty-third of a grain, could be differentiated; whilst the tips of the fingers required a weight, of the same superficies, of one-third of a grain heavier, and the toes as much as eight grains, before the sensation of pressure was made. The appreciation is nicer if the bodies are successively applied at intervals of a few seconds. In Weber's experiments, when 4 and 5 ounces were applied one after the other, an accurate judgment of the difference could be made after ninety seconds; but that between 14·5 ounces and 15 could not be accurately discriminated after forty seconds.

But this relative estimate of weight, when assisted by the so-called muscular sense, is, as Weber first proved by his interesting experiments, far more delicate than by the bare sense of pressure, for a difference between two weights may be detected when one is only one-twentieth or one-fifteenth less than the other. Smaller differences are perceived when light weights are used. Ounce weights are distinguishable in the ratio of 29 to 30, and with drachms the same ratio holds, so that the addition or removal of one drachm to a weight of 30 drachms will be felt. Now, in some of the affections to be considered, this can be utilized clinically, as we shall see later in the course. Dr. Jaccoud has shown that in the lower extremities this faculty of differentiation is much less than in the upper, and that for accurate distinction a difference of from 12 to 16 troy ounces is necessary. His method of practically applying this method of investigation is by means of an apparatus consisting of two square bags, open at one end, to which a cord is fastened as about the mouth of a purse, which secures them on the limb. The test weights, one heavier than the other, are put in the bags; the patient, with his eyes bandaged, is placed in the horizontal position, so that the lower limbs extend beyond the edges of the bed or table on which he is lying, and are unsupported; or he can be laid across the bed, or on a sofa, and the legs held up by an assistant. The bag containing the lightest weight is then fastened around the ankle, so that the instrument will not slip up the leg when the latter is raised. He is then made to lift the limb, and to keep it so for several seconds, until indeed the idea of the weight is fully perceived; it is then replaced in its former position. As soon as practicable the heavier weight is substituted, and the same procedure is repeated. If the so-called muscular sense is intact, the difference of weight is appreciated by the amount of effort the patient is required to make to raise and support it when the limb is in direct extension. When this sense is lessened or gone, it becomes necessary to more or less balance the weights before the differentiation is made; and not infrequently the appreciation is directly the contrary of the fact, the heaviest weight being judged the lightest. A rougher but speedier method is to attach the two bags each to a foot at the same time, and then make the patient raise both legs at once; when muscular anæsthesia exists no difference is appreciated, unless there is a difference of from 3 to 15 ounces. In two cases of locomotor ataxy no distinction was made where the ratio was less than 1 to 100.

It may be well to allude here to the employment of one of the natural modifications of common sensibility as a means of diagnosis—the feeling of tickling, which is most readily excited in parts which have a low tactile sensibility, as the arm-pits, flanks, and soles of the feet. It is often necessary to resort to this excitation to discover both the state of sensibility and conduction, and of reflex action.

(*B.*) The *local perversions of body-heat* in many disorders of the brain and cord have been studied only of late years. It is important that in all of them the local and general temperature should be noted. In most cases of recent hemiplegia the temperature of the palsied side is raised from a few tenths of a degree to one degree; it is rarely natural, but is sometimes lessened. The difference of temperature may be present in all cases of unilateral palsy symptomatic of various centric lesions, as hemorrhage, softening, &c. Whatever part of the brain is damaged, this increase is generally to be noted: but it has not yet been decided what relation the disturbance bears to the site of the lesion. After cure the equilibrium is restored, but the duration of the unilateral rise of temperature greatly varies in different cases, in some persisting for years, whilst in others it may not last longer than a couple of months. But even in long-standing cases a time comes when there is thermic equality, and Dr. Folet, who has particularly studied this subject, thinks this happens at the beginning of the consecutive atrophy. When after a long continued hemiplegia, with persistent excess of body-heat, the other side becomes palsied, either the temperature of both sides is equal, or the difference, when existing, is to the credit of the side last affected. The temperature of the affected parts does not appear to be influenced by the presence of muscular rigidity. The general body-heat of hemiplegic patients does not seem to be increased as a rule. In immediately fatal cases of unilateral cerebral paralysis following either hemorrhage or softening, Dr. Charcot and his pupils have made out three thermic periods—(1) A fall of about 1° Fahr.; (2) Oscillations between the normal temperature and 100° Fahr.; and then (3) a rapid rise to 105° Fahr. and upwards immediately before death. In the palsies dependent on disease of the spinal cord, or of the spinal nerves, or connected with nutritional errors bringing on muscular atrophy, there is always a reduction of temperature in the affected parts, and in some cases a return to the natural standard is among the first evidences of improvement.

In most cases the thermometer will detect the variations of temperature, and is the only instrument needed. But where the variations are very slight they can be best discriminated and most accurately measured by means of Becquerel's discs, in connection with a galvanometer. These are two thin plates of copper, of the size of a half-dime, soldered to a thin rod of bismuth, contained in a small tube of hard rubber with a handle. One disc is placed on the sound limb and the other on the corresponding part of the

palsied limb. Both discs are in connection with the poles of a galvanometer of delicate metallic wires, covered with silk thread. If the temperature of both limbs is the same, or natural, the needle of the galvanometer does not move; but if the heat of either is raised, the deflection of the needle is to the north or south pole, according as one or the other limb has the highest temperature.

In studying the *perversions of muscular power* we should bear in mind that muscle is the instrument and not the producer of force, the genetic factors being in the gray substance,—the nerve-centres,—the libero-motor system. Hence damage to these centres is followed by derangement of muscular function—diminished or total loss of motor power being one of the most frequent consequences of lesions of the brain and cord.

When we want to learn the degree of strength in the muscles of the arm, when paretic or palsied, the habit generally is to make the patient grasp the physician's hand; he is told to squeeze it, &c. This is a very rough, and in many ways a very unsatisfactory, method, and does not serve to indicate the changes for better or for worse in the progress of the palsy. To measure accurately the energy of muscular contraction in the upper extremities, several instruments have been invented. The one I show you is a simple and useful one; it is known as the dynamometer of Mathieu, a surgical cutler of Paris. (Fig. 11.)

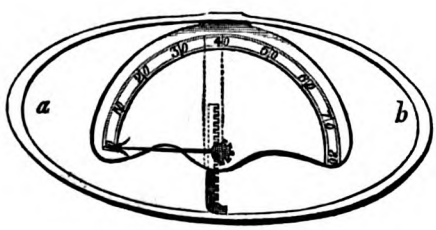

FIG. 11.—Dynamometer of Mathieu.

There is an elliptical steel spring, within and attached to which is a brass semi-circle with a scale; a steel arm, one side of which is cogged, moves an indicator, with a small cog-wheel attached, around the brass arc. The lower end of the arm rests on the elliptical spring when the indicator stands at zero on the scale; a brass sheet on the under side of the scale keeps this arm in place, but at the same time not hindering its movements. By squeezing the instrument the tendency is to bring together the two sides of the ellipse, and the steel arm, being shoved up by the lower side of the spring, causes the indicator to move forward. On the pressure ceasing, the indicator does not return to the starting-point, 0, but remains at the point to which it may have been carried by the muscular action of the patient, and thus it measures its degree. The pressure is made in four ways: (*a*) suddenly, and with all the will of the patient; (*b*) steadily, with gradual increase of will, or the reverse; (*c*) alternately, with strong and feeble strength; and (*d*) pressure at the word given, so as to measure the time taken by the will to reach the contractile muscle. It may also be used to measure tactile force, by fastening to the spring at the points *a* and *b* two hooks, with cords attached; traction on the cords will tend to approximate the sides of the instrument, and by pushing the steel arm move the indicator.

Professor W. A. Hammond states that he has found Mathieu's dynamometer useful in determining the effect of electricity on the irritability of palsied muscles, and thus enabling the physician to decide upon the appropriate time to employ it, by noting whether muscular strength is increased or diminished after its use.

D. Since the discovery of the ophthalmoscope, the connection of the interior structures of the eye with diseases of the nervous centres has been made apparent. The importance of *ophthalmoscopic exploration* of the inner eye, when practicable, in all cases of acute and chronic disease of the cerebro-spinal axis, as an aid to diagnosis, is now universally recognized; and this should be done whether there is any complaint of defect of sight or not. The changes in the inner eye which accompany certain affections of the brain and spinal cord happen in the optic disc, in the choroid, and their vessels. The optic disc may become congested or anæmic, or nutritional tissue-changes may occur, ending in atrophy. I shall only generally indicate some of the disorders of the cerebro-spinal system in which functional and structural perversions of the inner-eye structures may take place, and which are made manifest by *cerebroscopy*. I can do this best by summarizing the results of Dr. Bouchut's observations, who was among the first, if not the first, to develop this element of the physical diagnosis of diseases of the nervous system. 1. Optic neuritis and neuro-retinitis, choroiditis, and atrophy of the discs, are present in most acute and chronic affections of the brain and spinal cord. 2. The law of coincidence of optic neuritis and organic lesions of the nervous system may be explained by the anatomical and physiological relations of the eye with the brain and spinal cord. 3. Whenever any positive hindrance happens in the cerebral circulation, as a consequence of some lesion of the brain or cord, there is papillary and retinal hyperæmia. 4. When there is acute or chronic inflammation of the brain, it may extend to the eye by following the course of the optic nerve. 5. Affections of the anterior columns of the cord may, by reason of the anastomosis of its nerves with the sympathetic, at the level of the two first pairs of dorsal nerves, induce papillary hypertrophy with consecutive atrophy of the optic nerve. 6. Optic neuritis and neuro-retinitis from acute or chronic diseases of the nervous system are generally bilateral. 7. In affections of the brain and its meninges, optic neuritis is usually more marked in the eye corresponding to the hemisphere chiefly interested. 8. Changes in the optic disc and retina, attending disorders of motility, sensibility, and of the intellect, always indicate organic disease of the brain.

Bouchut thinks that the changes in the inner eye often occur early enough to be the first certain signs of the existing disease. He relates a case of tubercular meningitis of the surface of the brain, in which the diagnosis by the rational symptoms was at first doubtful, but which was at once made clear by the ophthalmoscopic signs. Intra-cranial tumors, including all enlargements and thickenings from any cause, are a frequent cause of ischæmia and neuritis. When the cerebellum is damaged the optic discs are affected. Acute and chronic cerebritic softening alone never causes ischæmia, the changes being neuritis and atrophy. In cerebral hemorrhage, when the effusion is large, there is stasis and infiltration in and around the discs, caused mechanically by the obstruction, and this is most marked in the eye on the side of the clot. In symptomatic epilepsy, with coarse cerebral lesion, atrophy of the disc is common, but it is never associated with essential epilepsy. Some circulatory troubles, as venous dilatations in some cases, are met with. Dr. Hughlings-Jackson has recorded many instances of

convulsions beginning unilaterally, in which there was double optic neuritis. In general paralysis, atrophy of the discs is nearly a constant, though rarely an early, symptom, happening usually towards the end of the first or the beginning of the second stage. In the several sclerotic diseases of the spinal cord—as locomotor ataxy, multiple or disseminated sclerosis of the cord, &c.—it is not infrequent, as we shall see when we come to study those affections.

E. In conclusion, I will make brief mention of

ELECTRICITY

as an auxiliary means of diagnosis in paralytic affections. Marshall Hall first directed attention to the diacritic value of galvanism and faradism in the several forms of palsy. By them we can determine the degree of muscular irritability and contractility, and of cutaneous sensibility; and here, I think, we have the whole present worth of electricity as a diagnostic help in the palsies. The field is a large one, and may be yet more profitably cultivated.

It had long been noticed that muscles which did not answer to the will, would quickly and even forcibly act under the influence of the electric current, whilst in other instances the contractions of palsied muscles were feeble or wanting when the same stimulus was applied. And we put these facts to diagnostic use by testing the degree of *electro-muscular irritability* and *electro-muscular contractility* present in a given case. By electro-muscular irritability we measure the quality of the existing irritability of the muscle-fibres, by seeing how quickly they answer to the lowest electrical power; and the lower the power and the sooner the comparative response—the muscles of different limbs, or different groups of muscles being experimented on—the greater the irritability of that muscle or set of muscles. This readiness of contraction should not be mistaken for energy of contraction, or electro-muscular contractility, which tokens the amount of muscular force. When you test for irritability a weak current is used—the weakest that will produce any effect; when you are trying contractility or power, a much stronger current will be necessary. A palsied muscle may be more irritable than a sound one, and the former will respond to a current that will have no effect on the latter; whilst a strong current may cause violent contractions of the healthy muscles, and scarcely perceptible ones of the damaged muscles.

In this lecture time will not allow me to even hurriedly indicate the several conditions of the nervous centres which may be associated with the various degrees of electro-muscular irritability and contractility. In treating of the special palsies I shall have occasion to refer to these diagnostic tests, and clinically apply them, and point out more in detail the principles which guide their practical use. Before quitting the subject at this time, I will, however, state that electricity is a precious help in making out the site of the lesion causing the loss of volitional power over the affected muscles. The fault may be somewhere in the course of the nerve, that is, between its offstart at the cord and its peripheral termination, by which its tissue is damaged, and its faculty of conductibility is lessened or destroyed. The nerve-fibres may be cut or torn across, or bruised, or some morbid growth, as a neuroma or other tumor, may exist upon it, or near it, pressing upon it, and functionally hurting it. Here electro-muscular contractility will be diminished in the muscles which the compromised nerve supplies, just in proportion to the amount of injury; and the response to the electric stimulus be proportionally slight or absent. Or there may be disease of the cord at the point of emergence of the nerves going to the palsied muscles; in this case the same state of things will be present. But suppose that the damage to the cord is above the segment from which the nerves of the palsied limbs are given off; then electro-muscular contractility may be preserved, though the action of the will is paralyzed as to those muscles, for they are cut off from all communication with the great centre of volition, the cerebral hemispheres. Again, some of the brain-ganglia may be damaged, and the producing centres be at fault,—causing cerebral paralysis; the palsied muscles will here reply more or less promptly and powerfully to the electric excitation, except in those cases in which there are secondary descending lesions of the cord; and this very important question, in a prognostic point of view, we are often enabled to make out by the electrical test. Lastly, the muscles themselves may be primarily affected, and be the seat of progressive tissue-changes, causing functional incompetency. We shall see a whole and important class of palsies in which the apparent coarse lesion is in the muscular structure. By galvanism and faradism we can also often decide whether the weakened condition of the muscle is due to functional disuse, or to persisting central mischief.

By electricity the physician can detect and expose imposture in cases of malingering, both in civil and military life, where palsy is feigned either for purposes of personal advantage, as after railway accidents, or to shun duty. In so-called hysterical paralysis it is a great help in fixing the "sham."

Finally, electricity informs us of the state of cutaneous sensibility, and gives us measurable periods of the transmission of peripheral impressions to the perceptive centres.

CAUSES AND ANATOMICAL CHARACTERS OF TUBERCULOSIS IN INFANCY AND CHILDHOOD.

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NEW YORK.

(Read before the N. Y. Medical Journal Association.)

TUBERCULOSIS occurs at any period of life. It is indeed more frequent in early manhood than previously; but it presents peculiar features in children, and especially in infants. Like most other general diseases, tuberculosis has a local manifestation which serves for diagnosis. This is a small, round, nearly transparent granulation, designated tubercle, which is developed within a tissue, or upon its surface. In certain situations it departs from its typical rounded form, and is more or less flattened. It is firm to the feel, and, when fully developed, varies in size from a pin's head to a small pea. It has recently, in its various phases, been studied with great interest by pathologists in Europe, and to a certain extent in this country, and these investigations have already thrown considerable additional light on the nature of tuberculosis.

The statistics of tuberculosis, previously to the last ten years, were not strictly accurate, since cheesy degeneration of whatever part was regarded by most pathologists as a tubercular lesion in all cases, and its presence in the cadaver was therefore considered sufficient proof that the disease of which the patient died was tuberculosis, whereas it is now known to be in many instances a degenerated product of simple inflammation. I have records of the histories and post-mortem examinations of thirty-six cases of tuberculosis occurring under the age of five years, and I have rejected all

cases of cheesy degeneration when not accompanied by other evidence of tuberculosis. Thus, caries of the vertebræ, with cheesy substance in the bony excavations, I have not considered tubercular. I have rejected one case in which three large cheesy bronchial glands lay in front of the carious vertebræ, inasmuch as there were no tubercles in the lungs or elsewhere. In another rejected case, the only lesions were empyema of the left pleural cavity, hyperplasia, and cheesy degeneration of the bronchial glands, and a single large cheesy nodule in the right lung. This patient may or may not have had tuberculosis.

ETIOLOGY.

The tubercular diathesis may be inherited. Hence the well-known fact of tubercular families. Cases are not unfrequent in which hereditary tuberculosis proves fatal before the death of the affected parent. The offspring of a tubercular parent does not, as a rule, have tubercles at birth; but the tubercular diathesis, at first latent as in syphilis, manifests itself in a few weeks, or months, in the formation of tubercles, and in the consequent cough and emaciation. In two cases, however, in my collection, a cough was observed, according to the statement of friends, as early as the second or third week. Under good hygienic conditions the inherited diathesis may remain latent or be removed. If both parents are tubercular, the offspring almost necessarily becomes so.

Tuberculosis frequently results from prolonged anti-hygienic conditions in those previously healthy and of healthy parentage. It may result from residence in damp, dark, and dirty apartments, from scanty or unwholesome food, protracted and exhausting diseases, in fine, from any agency which gives rise to great and continued impoverishment of the blood. Age is a predisposing cause. Tuberculosis is comparatively rare under the age of one year, while it is not uncommon in wasted infants between the ages of two and five years. This remark is fully substantiated by the statistics of the Nursery and Child's Hospital and Infants' Hospital of this city.

Is tuberculosis propagated by infection? Most physicians would answer in the negative, though in some countries, as in Italy, it is stated that the profession have long regarded it as mildly infectious. Every physician of experience must have remarked the frequency with which tuberculosis occurs in those not predisposed to the disease, but who have been in intimate relation with consumptive patients. This has been commonly regarded as due in no way to infection, but has been thought to be a coincidence, or has been attributed to an influence, not fully understood, which the emotions or imagination exerts in the causation of diseases. But recent discoveries concerning the etiology of tuberculosis, which will presently be related, afford ground for the opinion which some of our best authorities in the pathology of tuberculosis, as Waldenburg, now hold, that minute particles exhaled or expectorated from the lungs may be the medium of infection.

In December, 1865, M. Villemin read before the Academy of Medicine of Paris, and published, his celebrated memoir, which contained the results of his experiments in inoculating certain lower animals with tubercular matter. Since then the fact has been established by many experiments, that tubercle may be produced in the rabbit and other animals by inserting under their skin various pathological products, whether tubercular or non-tubercular, as gray tubercles, cheesy products, thickened pus, etc., and by inserting finely divided foreign substances, not animal, as aniline blue, and also by traumatic irritations which give rise to the formation of inflammatory products under the skin, as the use of a seton. The coloring matter, whether introduced alone or in combination with a pathological substance, is found in the tubercle which results in the lungs or elsewhere. Therefore it is inferred that tubercle in these experimental cases is produced by minute particles of the inserted substance, which enter the circulation and are deposited in the lungs or other organs. Where they are deposited, inflammation, or, in the words of modern pathologists, formative irritability arises, with proliferation of the cellular elements of the part. This corpusculation produces the tubercle.

The importance of these discoveries is apparent. Cheesy substances produced in the system, whether in the lungs, lymphatic glands, bones,—as in vertebral caries,—or elsewhere, and also long-retained purulent collections, as in empyema, may give rise to tuberculosis, provided particles of the morbid substance gain admittance into the circulation. The intimate relation long observed between scrofula and tuberculosis is explained, since the former is attended by hyperplasia and cheesy degeneration of the lymphatic glands, and by slow suppurative inflammations.

Blood extravasated in the alveoli of the lungs, and undergoing degenerative changes, is considered a cause of tuberculosis; but such extravasations are rare prior to the age of puberty. Protracted inflammation of the air-passages, as bronchitis or laryngitis, is believed by some good observers to give rise to tubercles in certain cases, but the proof of this is not at all conclusive. In infancy and childhood the common cause is a diathesis inherited, or acquired through impoverishment of the blood by previous disease or anti-hygienic conditions, or it is infection of the system from cheesy glands or purulent collections.

It is my opinion, based on these recent discoveries, and the post-mortem examinations which I have made, that the immediate cause of the formation of tubercles in the lungs, spleen, and other viscera, in a considerable number of cases, is hyperplasia and cheesy degeneration of the bronchial and mesenteric glands, whether or not this glandular affection is to be considered tubercular. Thus in the two last cases which I have examined there were minute transparent tubercles in the lungs, some becoming yellow, evidently of very recent formation, and also in one of the cases in the spleen, while in both cases the bronchial glands were enlarged and cheesy, and in one also the mesenteric. In another case, occurring in the Child's Hospital, the bronchial and mesenteric glands were cheesy, with all the thoracic and abdominal viscera healthy, while there were granulations nearly the size of a pin's head, due to cell proliferation, as ascertained by the microscope (tubercular) in the pia mater at the base of the brain, along its sides, and between the hemispheres.*

The Society will pardon a brief exposé of the present views of pathologists in reference to the general anatomical characters of tuberculosis, since the pathology of this disease has recently been so thoroughly and successfully studied, especially on the continent. This will aid to a better understanding on the subject which we are to consider in this paper.

GENERAL ANATOMICAL CHARACTERS OF TUBERCULOSIS.

Analysis of the blood of tubercular patients shows an increase in the water, albumen, fats, and white corpuscles, and a decrease in the number of red corpuscles.

* In some cases long retained collections of pus appear to sustain the same causative relation to tuberculosis in childrenas do cheesy products. Since the reading of this paper I have met such a case. There were minute tubercles, evidently recent, in both lungs; no cheesy substance in the glands or elsewhere, but a large abscess in the thigh, which had been detected a month before death. The specimen was presented to the Pathological Society.

The fibrine is slightly diminished, except in cases complicated by inflammation, in which it may be in excess. The chief interest, however, as regards the anatomical characters of tuberculosis, pertains to the tubercle. The tubercle is as characteristic of tuberculosis as the eruption is of an exanthematic fever. It is produced, as already stated, by a local proliferation or corpusculation. It is therefore a cell-growth, and not a deposit.

If we examine with a microscope a thin section of a recent tubercle, we will observe in its peripheral portion, in which proliferation was active at the time of death, large mother cells, spindle-shaped fibro-plastic cells, and small round cells, which have been released from the mother cells. This zone of proliferation often has considerable extent. Passing towards the central portion of the tubercle, we find these small round cells in great abundance. They represent a more advanced stage of the tubercle, since the central part is oldest. They are the most numerous cells in the tubercle, and they have been designated the tubercle cells. They resemble closely in appearance the smaller of the white corpuscles of the blood, and cannot be distinguished from the normal cells of the lymphatic glands, each consisting of a single large nucleus surrounded by protoplasm. They are among the most fragile of pathological cells. The cells are held together by a transparent adhesive substance, which is firm and resisting.

Every tubercle tends to undergo a molecular change by which its transparance is lost. This consists in a decay of the cells and the intercellular substance. Granules of fat are deposited within them, and the cells shrivel and disintegrate. Fragments of cells, and shrunken cells, and cell-nuclei are thus produced, which Lebert described as the tubercle cells, and which were accepted as such by all observers till Virchow ascertained their true character. The molecular change which I have described commences in the interior of the tubercle, and extends outward till the whole tubercle becomes opaque and yellow, and at the same time so friable as to be readily crushed between the fingers. The yellow tubercle is therefore only an advanced stage of the gray semi-transparent.

It is evident that tubercle in its first period possesses vitality, and, like all neoplasms, has its blood-vessels. These are soon closed by coagula of granular fibrine, mixed with white blood corpuscles. When the tubercle has reached the yellow transformation, its vessels are no longer pervious, but it is surrounded by a vascular zone, in which circulation continues. The subsequent history of tubercle is well known. It is seldom, perhaps never, absorbed. It softens, and henceforth, as has been said by a German pathologist, its history is that of an abscess. It is an irritant, producing inflammation in the surrounding tissues, with thickening and induration, and abundant production of pus cells, which mingle with the tubercle elements. Ulceration and discharge of the liquefied substance upon one of the free surfaces is the common result. In exceptional cases, instead of softening, the tubercle may undergo fibroid degeneration or cretification.

ANATOMICAL CHARACTERS IN INFANCY AND CHILDHOOD.

The anatomical characters of tuberculosis in the first years of life vary in certain particulars from the form which they present in the adult, but after the age of three years the differences are fewer and less pronounced than previously.

Tubercular laryngitis, so common in the adult, is absent in a large proportion of cases under the age of three years, and when present has little intensity; and ulceration of the larynx very seldom occurs. This has been attributed to the fact that there is so little expectoration in young children, the sputum being an irritant. Niemeyer, however, does not consider the sputum of tuberculosis sufficiently irritating to cause the laryngitis and laryngeal ulceration; but the arguments in favor of this mode of causation, in my opinion, more than counterbalance those which have been presented against it.

I have never met a case of tubercular ulceration of the larynx or trachea in the post-mortem examination of young children, nor do I recollect ever treating a case in which there was that degree of dysphonia which indicated ulceration. Rilliet and Barthez, in more than 300 necropsies of tubercular cases, found no ulcers in the larynx or trachea under the age of three years; 8 cases between the ages of three and ten years, and 8 between ten and fourteen years. The ulcers, whether seated in the larynx or in the trachea, —and they are in most cases in the former, since the inequalities upon the surface of the larynx favor the retention of the sputum,—are commonly small, superficial, round or elongated, and with little thickening or inflammation of their borders. Occurring in the folds of the mucous membrane, for example, around the vocal cords, their form is usually elongated.

Bronchitis is not infrequent. This inflammation is due to, and dependent on, the pulmonary tubercles, and is therefore most intense in the part of the lung where the tubercles are most abundant and farthest advanced. It is therefore more intense on one side than on the other, and it may be unilateral. It differs in this respect from idiopathic bronchitis, which is commonly pretty uniform on the two sides. It differs also in the fact that it is sometimes accompanied by ulcerations. The ulcers are round or elongated in the direction of the axis of the tubes, and, like those of the larynx or trachea, are superficial. Idiopathic bronchitis of infancy and childhood does not cause ulceration. Circumscribed inflammation may attack a bronchial tube, as, indeed, the trachea, and give rise to ulceration and perforation, from the presence and pressure of a diseased lymphatic gland external to the tube. This subject will be treated of hereafter.

LUNGS.

It is well known that in the adult tubercles are always present in the lungs, if they occur in any part of the system. I have met two cases in the 36 post-mortem examinations of young children in which the lungs were free from tubercles and healthy. One of the two was an infant, but its exact age is not stated in the records. It had cheesy degeneration of thymus and bronchial glands, enlargement of mesenteric glands, but without cheesy degeneration, and disseminated tubercles in liver and spleen. The other, 15 months old at death, had tubercular meningitis, with numerous granulations upon the convexity of the brain, and the other usual lesions of meningeal inflammation, with bronchial and mesenteric glands slightly enlarged and cheesy, and one of the former softened. In one case, then, in 18, the lungs had escaped the disease. Rilliet and Barthez state that they found the lungs non-tubercular in 47 cases in 312, and Hillier in 25 cases, in 160. In their cases, therefore, the lungs were exempt from tubercles in about 1 case in 7. But it is to be recollected that the statistics of these observers were prepared at the time when all cheesy degenerations were thought to be tubercular, and the bronchial and mesenteric glands are sometimes cheesy when there are no tubercles or lesions referable to tuberculosis in any other part of the system. I have records of two such cases, which I reject from my

statistics of tuberculosis, as there is no evidence that the disease was anything else than simple inflammation. Did I include these cases, my statistics would correspond with theirs.

Pulmonary tubercles in children under the age of three years are, as a rule, discrete, and disseminated through the lungs. In cases at this age, which have advanced to a fatal termination, we commonly find yellow tubercles from the size of a pin's head to a shot in the different lobes, many still semi-transparent if the disease has been of short duration, but if protracted most of them yellow, and here and there one softened and surrounded by condensed fibrous tissue. Around the semi-transparent or gray tubercles, many of which were growing, and therefore were in the state of active cell proliferation at the time of death, narrow vascular zones can often be detected by the naked eye.

Under the age of three years, tuberculosis exhibits but little tendency, perhaps none, to affect the upper lobes sooner or in greater degree than the lower.

The following are the statistics relating to the site of the tubercles in the lungs in the cases which I have examined. All, it is to be remembered, were under the age of three years:—

Tubercles disseminated throughout the lungs	26 cases.
Tubercles disseminated throughout the two upper lobes	3 cases.
Tubercles disseminated through right middle lobe and left lower lobe only	1 case.
Tubercles disseminated through left upper lobe only	2 cases.
Tubercles disseminated (few and semi-transparent) in left lung only	1 case.
Tubercles disseminated in three points in right, and two in left lung	1 case.
No tubercles in lungs	2 cases.
	36 cases.

Between the ages of three and fifteen years, statistics show that the upper lobes are more liable to tubercles than the lower; but the difference in liability is not great. In many cases occurring in this period, the different lobes are affected nearly simultaneously, and not very infrequently the upper lobe is the last which is involved. In October, 1866, I made the post-mortem examination of a boy who died in the Children's Service of Charity Hospital, at the age of fifteen years, and small scattered tubercles were found in the lower lobe of the left lung, while all other portions of these organs were healthy. Rilliet and Barthez, who include in the same statistics all cases from birth to the age of fifteen years, found gray semi-transparent tubercles

In the right superior lobe in	63 cases.
In the right middle lobe in	43 cases.
In the right lower lobe in	55 cases.
In the left superior lobe in	65 cases.
In the left inferior lobe in	54 cases.

The same observers found yellow tubercles in the

Right superior lobe in	40 cases.
Right middle lobe in	28 cases.
Right inferior lobe in	39 cases.
Left superior lobe in	35 cases.
Left inferior lobe in	31 cases.

It has already been stated that tubercle originates in a circumscribed inflammation. On the other hand, tubercle, especially when softening commences, is itself an irritant, exciting inflammation around it. Inflammation occurring from this cause is obviously likely to be protracted, continuing for weeks or months, unless the tubercular matter is eliminated by ulceration. The highly vascular and delicate lungs of the young child are very liable to inflammation when they are the seat of tubercles, and as the tubercles are disseminated, the pneumonia is commonly more extensive than when it occurs from ordinary causes. In fifteen, or nearly one-half of the cases, there was pneumonia affecting portions of one or more lobes, or an entire lobe. From the extent and position of the solidified portions, it was obvious that in most cases the inflammation originated from the irritating effect of the tubercular matter, while in others it was due to hypostatic congestion, occurring in consequence of the long-continued recumbent position and the feebleness of circulation. In these fifteen cases the seat and extent of the inflammation were as follows:—

Nearly entire right lung	2 cases.
Nearly entire middle and lower lobe	1 case.
Entire left upper lobe	2 cases.
A considerable part of both lungs	1 case.
Posterior parts of both lower lobes	4 cases.
Posterior part of left lung	1 case.
Left lower lobe, and right middle and lower lobes	1 case.
Left upper lobe (contained a large cavity) and posterior part of left lobe	1 case.
Nodules of inflamed lung around tubercles	2 cases.

The inflammation in about one-third of the affected lobes was due to hypostasis, as it occurred in depending portions, extended but little into the lungs, and sustained no relation to the amount of tubercle.

In seven of the cases there were pulmonary cavities as large in proportion as we ordinarily find in tuberculosis of the adult. The seat of one was in the right lower lobe; of two, the left upper lobe; of one, the right upper lobe; of another the right lung, its exact seat not stated; and in the remaining case the cavity, which was the largest of all, occupied the interior of all three lobes on the right side. Some idea of the size of these cavities may be learned by the following extracts from the records. 1st Case.—"A small superficial cavity communicating on one side with a bronchial tube, and on the other side with a small circumscribed collection of pus in the pleural cavity." 2d Case.—"Cavity of the size of a hickory-nut." 3d Case.—"Cavity of the size of a large hickory-nut." 4th Case.—"Cavity three-fourths of an inch in diameter." 5th Case.—"A large abscess." 6th Case.—"The cavity occupied nearly the whole of the interior of the left upper lobe." 7th Case.—"About half the right lung excavated into a cavity which extended through the three lobes."

Circumscribed pleuritis, produced by tubercles underneath the pleura, was observed in seven cases. It was ordinarily attended by little exudation, except the fibrin, but in one case a sufficient amount of serum had been exuded to compress considerably the lung. Pus was not observed in any notable quantity.

Emphysema was present in several cases, chiefly in the upper lobes, sometimes vesicular, with fulness or bulging of the lung, an anæmic appearance of it, and doughy, inelastic feel. In other cases emphysema was interstitial, producing little bladders of air under the pleura, especially towards the root of the lung, or separating the lobules by wedge-shaped or irregular interspaces filled with air. In one case air had escaped from an emphysematous bladder into the right pleural cavity, causing pneumo-thorax and collapse of the lung.

Next to the lungs the bronchial glands are more frequently diseased than any other organs, in the tuberculosis of infancy and childhood. They undergo the successive structural changes which characterize glandular inflammations, namely, hyperplasia, and more or

fewer of them cheesy degeneration and softening. In the state of hyperplasia the firmness is diminished, and they have a pale flesh color. Cheesy degeneration commences in one or more points in the gland, sometimes in the peripheral, sometimes in the central portion, and it extends till the whole gland presents the well-known cheesy appearance. When the gland softens the thick liquid presents a puriform appearance, consisting of amorphous matter, fatty particles, and the shrivelled and disintegrated cells of the gland. Soon pus cells occur, and their number increases.

Microscopy shows no anatomical difference between the hyperplasia or cheesy degeneration of the lymphatic glands occurring from inflammation, and that from tubercle; but since the bronchial and mesenteric glands are not often cheesy or greatly hyperplastic from simple inflammation, and are commonly not only greatly enlarged, but cheesy in the tuberculosis of young children, we conclude that the inflammation which gives rise to this hyperplasia and degeneration in such cases is of a tubercular character.

Rilliet and Barthez state that the bronchial glands were tubercular in 249 cases in children, while the lungs were tubercular in 265 cases. All cheesy glands, it is to be recollected, they considered tubercular. In 4 of the 36 cases which I have examined, no record was preserved of the state of the bronchial glands; in one case there was no perceptible hyperplasia and no cheesy degeneration; in two there was hyperplasia, but no cheesy degeneration, while in the remaining 29 cases there was cheesy degeneration of more or fewer of the enlarged glands, or parts of them, with occasional softening. In the fact that the bronchial glands are tubercular and enlarged, we have an explanation in part of the fact, that the symptoms in the tuberculosis of young children differ from those in the adult, since Louis found the bronchial glands tubercular in only twenty-eight per cent. of the adult cases of tuberculosis which he examined, and Lombard in only nine per cent. A gland pressing upon the recurrent laryngeal or pneumogastric nerve, or the trachea, may give rise to dyspnœa and a cough; or on the descending vena cava or one of the venæ innominatæ, to congestion of the brain and meninges, inter-cranial serous effusion, and even thrombosis in the cranial sinuses. The fact that a softened bronchial gland not infrequently is eliminated from the system, by ulceration, into a bronchial tube or the trachea, is well known. In one case which I observed the ulceration had destroyed portions of three of the cartilaginous rings of a bronchus, and the aperture was plugged by a cheesy fragment of a softened gland which protruded. Occasionally, it is stated by authors, the ulceration is into one of the large vessels of the mediastinum, or even into the œsophagus.

In no case did I find tubercles in the heart or pericardium, though they have been observed in rare instances in the latter. The mesenteric glands were enlarged by hyperplasia, and more or less cheesy, in 30 cases; in their normal state, to appearance, in two cases, and in the remaining 4 cases their condition was not stated. In most of the cases the mesenteric glands were smaller and less cheesy than the bronchial, but in a few instances the mesenteric were larger than the bronchial and more cheesy.

It is a noteworthy fact, as bearing on the causative relation of these glands to tubercles, that not infrequently the amount of hyperplasia and cheesy degeneration of the former was very considerable, while the tubercles in the lungs or elsewhere were small, even minute, semi-transparent, and evidently of recent formation.

The following table exhibits the state of the principal abdominal viscera in the 36 cases:—

	Liver.	Spleen.	Kidneys.
Tubercular	12	22	1
Non-Tubercular	16	6	21
Not stated	8	8	14
Fatty	5	0	0

In no instance did I observe tubercular softening in the abdominal organs, and a large proportion of the tubercles in the liver, spleen, and kidneys, were still in the first stage. In the 5 cases in which the liver was recorded fatty, this state of the organ was obvious to the sight, as it is in tuberculosis of the adult. A moderate excess of fat in the hepatic cells may have been present in some of the other cases, but it was not sufficient to be appreciable without the microscope. It is to be remarked that in the five cases in which the liver is recorded fatty, this organ contained no tubercles. The spleen is seen to have been the most frequent seat of tubercles of all the viscera, except the lungs. In fourteen cases the intestines were examined; and in five, tubercles discovered developed in the connective tissue. The intestinal tubercles were small, and ulceration had occurred of the mucous membrane which covered them.

The brain was examined in fifteen cases. In twelve cases the amount of cerebro-spinal fluid varied from ℥ ss. to v., by estimation. In two others the records state that there was a considerable amount of this fluid, the exact quantity not being given, while in the remaining case congestion of the brain and meninges was noticed, but nothing was recorded in regard to the amount of cerebro-spinal liquid. The increase of the cerebro-spinal fluid in tuberculosis is attributable to wasting of the brain, a *hydrocephalus ex vacuo*, and in some cases to passive congestion and serous transudation, due to feeble circulation, or obstructed flow from the pressure of bronchial glands on the vessels within the thorax, as already stated.

Tubercles were present in the pia mater in three cases: in two with fibrinous exudations; in the other without fibrine or other evidence of inflammation.

Original Communications.

REGIMEN A MORE EFFECTIVE PROPHYLACTIC AGAINST MIASMATIC AND EPIDEMIC INFLUENCES THAN THERAPEUTIC AGENTS.

By JAMES S. BAILEY, M.D.,

ALBANY, NEW YORK.

The intelligent physician is well aware that the sulphate of quinine, taken in small doses at stated intervals, will, in the majority of cases, prevent an attack of miasmatic fever, and, if contracted, will modify its severity.

It has been very successfully used upon some plantations in the Southern States, and has in many instances so fortified the system as to prevent an attack of yellow fever in persons constantly breathing an atmosphere charged with the epidemic influence.

For how long a period it will act thus is not well determined. Some claim for it an indefinite period. My observations convince me that if it is long persisted in it ceases to act as a prophylactic. Tonics may be used until they produce debilitating effects upon the system, and why may we not anticipate a loss of power and consequent failure in this respect when the system has become accustomed to it?

The writer now recalls an instance of an intelligent physician practising in a highly malarious district, who used to employ the sulphate of quinine in his own person, as a prophylactic against the absorption of miasm. His system became accustomed to its use and it lost its remedial power. When he once succumbed to an attack he was not so decidedly impressed with its action as were those not habituated to its use.

After a long residence and experience among diseases of this character, I became convinced that a well-regulated diet served more effectually to protect the system than any known therapeutic agent.

The writer, during sixteen years of active practice in his profession in a malarious atmosphere in Alabama and Texas, never contracted a chill, while much of the time exposed to the scorching rays of a noon-day sun and the humid night atmosphere. The same was true in reference to the exemption of every member of his family;—a fact so noticeable that many were anxious to know the cause.

The secret was simply this: our meals were regularly served and our food healthfully cooked. We breakfasted immediately upon rising in the morning, and ate supper before sundown. Between the setting and rising of the sun persons are more exposed to the influences of miasm than at other times. If at any time any member of the family did not have an appetite for such food as was prepared, some other dish that he could relish was substituted, thereby effectually preventing too long a period of fasting, for persons are much more liable to contract malarious fevers upon an empty stomach than when digestion is healthfully progressing.

Another fact should be observed. In such climates, even in midsummer, before sunrise and after sunset there is much humidity of atmosphere, and it was my custom nearly the whole year, every morning and evening, to have a small fire kindled, to rid the air of this noxious element.

The bilious miasmatic diseases usually commence early in June, and last until late in autumn. It was not uncommon during certain seasons, in some families, to find nearly every member confined from sickness of this character, with scarcely well ones enough to wait upon the sick. If these precautionary and dietetic means are sufficient to protect the system, every person should not only know the fact, but practise it.

The truthfulness of these statements will be further sustained by the fact that after the close of the war, when servants were free, and consequently were unwilling to perform labor at any price, in any family, for more than a few days at a time, our meals were irregularly served and imperfectly cooked.

The health of the family soon bore perceptible evidence of the change, as one after another fell an easy prey to the atmospheric influence.

These facts not only hold good in miasmatic diseases, but are equally true in epidemics of yellow fever. The writer, without having been acclimated, passed through several severe epidemics of this disease by strictly adhering to these principles, and escaped without contracting the disease.

Coffee serves as an excellent antidote against malaria. The French creoles, living upon the sullen and stagnant bayous of Louisiana, are in the habit of taking a cup of strong hot coffee before rising in the morning. Planters who cause their servants to take a cup of strong hot coffee before going out in the morning dew have experienced a remarkable exemption from malaria.

Residents in a malarious atmosphere should never leave the house without having breakfasted first. Individuals who have made this an invariable rule, have experienced a remarkable immunity from these diseases, and still live in the enjoyment of health, while others disregarding these precautions have passed away.

This explains why there are so many widows in such climates. The men are exposed to out-door life, and suffer from such causes, while the women are protected within doors and escape.

The foregoing principles are of practical and vital importance, especially in new countries, on river bottoms, where vegetation is rank and of rapid growth, and in all regions where miasmatic diseases abound.

For this reason practical facts have been presented that cannot be disputed.

The susceptibility to the influences of disease is in proportion to bodily debility. The system has less power to repel diseases and destructive agencies early in the morning, in consequence of long fasting during the night. The man who crosses the Pontine marshes near Rome before breakfasting, is sure to die from some malignant fever, while he who first takes a hearty meal passes through without harm.

When food enters the stomach it stimulates and excites more active circulation of the blood; the stimulating influence of nutriment derived from food prevents the mischievous and pernicious ingredients from entering the circulation. The laws antagonizing the effects of miasm are ascertained with certainty, and "one ounce of a preventive is better than one pound of cure."

The human system is strongly inclined to fall into irregularities, and repetitions soon produce habits, which, if not corrected, may last a life-time. Countless multitudes have consequently been inveigled into the various forms of dissipation, such as drunkenness, venereal excesses, using tobacco, &c.

If a nap is indulged in to-day, to-morrow about the same time sleepiness is experienced; the same is true with irregularities in eating; the appetite soon becomes fitful, the digestion deranged, the system loses its power of resisting the various diseases, and the victim falls an easy prey to dangerous and incurable maladies.

Excesses of any description, particularly drinking, and venereal, should not be indulged in during any exposure to epidemics. If so, the system is much more liable to succumb, and inevitably death must follow.

The pernicious effects of the early morning air in a miasmatic region upon the debilitated body and the unresisting stomach are known, and their laws of action are recognized, but human skill has failed to discover the physical properties of that ingredient. The analysis of this subtle poison and disease-producing atmosphere by the best known chemical tests has revealed nothing unusual.

We have learned that these deleterious agencies are resisted by the healthful stimulus of food introduced into the stomach, and if the digestion remains vigorous, and food is taken in sufficient quantities, and at regular intervals, they are comparatively harmless.

New Uterine Dressing Forceps.—Dr. G. Pepper, of Philadelphia (*Am. Journ. Obstetrics*), recently exhibited to the members of the Philadelphia Obstetrical Society a pair of long uterine dressing forceps, which allowed of the removal of the blades, and the adaptation of a pair of curved ones instead for carrying various therapeutic agents into the cavity of the uterus. The sound also separated, and the entire number of pieces readily slipped into the bivalve speculum, thus enabling them to be carried in the vest pocket.

Progress of Medical Science.

Treatment of Phthisical Sweating.—M. J. Guyot has found the phosphate of lime, in two to six gramme doses a day, to be a capital remedy for the sweating of phthisis and rheumatism. He never found the least inconvenience.

Treatment of Hysteria.—M. Guillemin, in *Lyon Medical*, recommends the inhalation of ethereal tincture of valerian for the space of one or two minutes as most successful in cutting short an hysterical seizure. Under its influence the hysterical attacks have always yielded and a pleasing lassitude ensued.

The Continuous Current in Hemiplegia.—Dr. Althaus mentions the case of a man, aged fifty-two, who, whilst writing, suddenly lost the use of the right arm. There was complete paralysis of forearm and hand, and nearly complete anæsthesia of hand and fingers. A current of twenty cells of Daniell's battery was applied to the left hemisphere for one minute on several occasions, and the same was applied to the radial and ulnar nerves, with the effect of restoring the power of the affected arm completely.

Simple Method of Examining the Throat.—In the *Revue Médicale* for March 19th is a suggestion by Dr. Guillaumot (of Poligmy), which, from its simplicity, deserves notice. Instead of having recourse to lowering the tongue with spoon or paper-knife, he makes the patient *yawn slowly* and deeply, while facing a natural or artificial light. After one or two minutes' instruction, the tongue is seen to subside and sink into the cavity of the floor of the mouth, the uvula is carried up in raising the tonsils and the pillar of the velum palati, and the examination of all these parts is thus facilitated. The method has the advantage of being a natural one, and is peculiarly applicable in the case of children.

Recurrence of Calculus.—Mr. W. Coulson says the rapidity with which calculus often recurs after operation is remarkable, and he recommends, as a prophylactic, washing out the bladder daily with lukewarm water.

Radical Cure of Corns.—We are glad to find a radical cure for these torments of civilized life, suggested by M. de Pontevés. It consists of the destruction both of the cuticular cuirass and the underlying cutis. The surface is covered with a vesicating plaster well charged with cantharides powder. After leaving this on twenty-four hours the cuticle will be found raised all around the "cuirass" of the corn; this is now taken off and a coating of tannin laid on the exposed and tender surface, then a tannin ointment laid over the part, the rationale being, firstly, the destruction of the cuticular covering, and then the application of the tannin to the gelatinous cutis—in fact, "tanning the corn."—*Medical Press & Circular.*

Electricity as a Therapeutic Agent.—Dr. R. Reynolds says a muscle may be paralyzed by something wrong in the tissue of the muscle itself; by something which cuts through the nerve which should connect it with the cord; by something destroying that part of the cord from which the nerve arises; by something destroying or cutting across the cord higher up than the origin of the nerve; or by something which damages the brain. Now in brain disease there is no diminution in the contractility of the paralyzed muscle when the galvanic current is applied, and in spinal disease in some cases this is the case. Feigned disease can often be made out by means of the galvanic battery.

Self-Illuminating Ophthalmoscope.—Dr. Lionel Beale, F.R.S., has devised an instrument for ophthalmoscopic examinations which promises to be a boon to future observers. A simple brass telescope tube, about one inch in diameter, has a lamp fixed to one side of it, and with another tube, in which is placed a reflector and ophthalmoscopic lens. This arrangement entirely obviates the necessity for the dark room for ophthalmoscopic observations. The patient is told to look with the other eye at an object some twelve feet distant, in order to enlarge the pupil.

Dr. D. C. Black on Gonorrhœa.—Dr. Black, of Glasgow, does not think that any irritant, whether chemical, physical, or vital, is quite sufficient to give rise to a gonorrhœa, and that "the majority of females who communicate gonorrhœa do not suffer from it themselves," as has been said by some authorities. He lays down two propositions—1. That married men have never been known to contract gonorrhœa from their wives; and, 2. That in remote country districts, and in islands, where there is no prostitution, gonorrhœa is never seen, save as an importation. The incubation period is from four or five days to some weeks. Gonorrhœa, then, is a local specific inflammation. His own firm conviction is that, when once the specific irritation sets in, neither diluents nor cooling drinks are of any use. Contrary to Mr. Hutchinson's views, Dr. Black thinks that in injections the amount of irritation and the strength of the injection should be in an inverse ratio. He is persuaded that sulphate of magnesia should not be administered in the acute stage. He likes as injection a mixture of sulphate and acetate of lead, three grains of the former to two of the latter, with a drachm of glycerine in an ounce of water; half of this injected four times a day. Repeated injections he prefers to retaining the solution. At the same time he administers cubebs. Chloride of zinc, three grains to the ounce, or a drachm of tannin with half a drachm of borax, and one ounce of glycerine in seven ounces of water, are recommended as injections.

In connection with the same subject he says that erection of the organ in chordee may to some extent be prevented by the internal use of bromide of potassium, opium, and camphor, and the local as well as internal use of belladonna and cold baths. In epididymitis he recommends leeching and hot fomentations in the acute stage.—*Medical Press & Circular.*

Skimmed Milk in Disease.—Dr. Donkin advocates the use of skimmed milk in albuminuria, diabetes, and fatty degeneration. The milk should not be boiled, but taken warm or cold, and six or seven pints may be used by an adult in the twenty-four hours. The cream must be very carefully removed, Dr. Donkin says, as it is injurious in cases of diabetes. The milk should therefore stand twenty-four hours, when the weather will permit it, before being skimmed.

Paralysis of the Bladder.—Dr. Van Holsbeck has employed, with success, electricity in paralysis of the bladder. He introduces an instrument into the cavity and another into the rectum, connects them with the poles of an ordinary machine, and allows the continuous current to pass for a quarter of an hour. In seven sittings he has cured paralysis which had resisted all other remedies.—*Med. Press and Circular.*

Permanganates for Fetid Expectoration.—An in-

teresting case occurred in the wards of the Hospital at Grenoble under Dr. Charvet. A man of forty-three years of age, consumptive, suffered terribly from the offensive nature of his expectoration, which compelled him to be placed in a separate room. Carbolic acid was prescribed, but produced only the slightest effect. Dr. Charvet then tried solution of permanganate of potash in water. The success was very striking, the stench at once being diminished, and in the course of ten days quite removed.—*Med. Press and Circular.*

Regeneration of Nerve-Tissue.—Voit has recently proved the reproduction of the cerebral tissue in the pigeon, and the coincidence of this reproduction with almost complete renewal of the cephalic functions. MM. Masius and Van Laer, Professors in the University of Liège, deduce from recent experiments—detailed at length in the current number of the *Monthly Microscopic Journal*—that the spinal cord in the frog can recover rapidly a loss of substance which has taken place in its own tissues, and repair its primitive anatomical and physiological properties.—*British Medical Journal.*

The Lymphatic Spaces of the Eye.—The last number of the *Quarterly Journal of Microscopical Science* contains a good *resumé* of Schwalbe's paper on the lymphatic spaces of the eye, contributed to the first part of Schultze's *Archives of Microscopical Anatomy* for the present year. In this paper are described the lymphatic spaces of the posterior division of the eyeball, which include the perivascular spaces of the retina, the perichoroid space with its efferent channels, and finally, a lymphatic space between the outer and inner sheaths of the optic nerve, which, without communicating with the other two, opens directly into the arachnoid sac of the brain. Between the inner surface of the sclerotica and the outer layer of the choroid is a space which was recognized by Arnold as a serous cavity, and to which the name "arachnoidea oculi" might be given. It is distinct from the lamina fusca, though in part occupied by connective tissue, elastic fibres, and stellate pigment cells. The opposed surfaces are smooth and shining, and, after treatment with nitrate of silver, exhibit epithelial markings with oval nuclei. It is most distinct in white rabbits, but cannot be demonstrated in the eye of man, on account of the difficulty of obtaining fresh human eyes. When filled with a colored fluid by injection, the space was found to reach backward to the neighborhood of the entrance of the optic nerve, and forward as far as just under the ciliary processes. The injection left the ball at four points corresponding to the entrance of the venæ vorticosæ, and cross sections showed that the veins were encircled by the injection. On escaping from the globe, the injection filled the capsule of Tenon, which again was found to communicate backwards, by a cylindrical channel surrounding the outer fascia of the optic nerve, with the arachnoid space of the skull. Besides the canal just spoken of as surrounding the whole optic nerve, to which the author gives the name of "supravaginal" space, there is another included between the two fasciæ of this nerve, which he calls the "subvaginal." This is continuous with the arachnoid, but does not communicate with the proper lymphatic spaces of the eye.—*Lancet.*

The Statistics of Cases of Anæsthesia by Chloroform and Ether.—Dr. E. Andrews, of Chicago, Ill. (*Chicago Medical Examiner*), has collected 209,893 cases of anæsthesia, so as to determine the relative dangers of the administration of chloroform and ether. The figures obtained give us 92,815 cases of anæsthesia by ether, and 117,078 by chloroform. Among those cases of anæsthesia by chloroform, 43 deaths occurred, showing the ratio of mortality to be 1 to 2,723. Among those by sulphuric ether, 4 deaths occurred, showing 1 death to 23,204 cases. It is evident, therefore, that the ratio of mortality, in surgical anæsthesia, by chloroform, is about eight and a half times greater than by ether.

Prof. A. has compiled a table of anæsthesias by mixtures of chloroform and ether, which shows 2 deaths in 11,176 cases; ratio of mortality, 1 to 5,588. From this it would seem that the mixtures have proved twice as safe as chloroform, and about four times more dangerous than ether. With regard to the new anæsthetic, bichloride of methylene, he states in concluding, we have as yet no decisive results, but the English journals report a single death among about 7000 cases.

The After-Treatment in Cases of Peripheral Linear Extraction.—R. H. Derby, M.D. (*N. Y. Med. Journal*), gives the subjoined after-treatment of Prof. A. Von Graefe, in cases of peripheral linear extraction, which he regards as highly important:—1st. That a fine and soft material be used as compress, and not a coarse charpie with hard threads. 2d. That the charpie be carefully arranged, so that when the hand be laid closely upon the compress, only a flat surface and nothing of the convexity of the eye be felt, and so that a moderate pressure upon the compress shall cause the patient no pain whatever. 3d. That the three turns of the bandage over the eye shall not alone keep the compress in its place, but afford a fully equable support for the surface of the eye from the lower to the upper fold of transmission. His rule is to change the bandage on the evening of the day of operation, and again the morning after. There is absolutely no objection to lightly opening the lids, and, by candle-light, cautiously looking at the lower part of the cornea. The patient should never be allowed to have the least sensation of pain in the region of the wound, that is to say, that does not absolutely depend upon the process of healing. The evening after the operation the patient should feel quiet and disposed to sleep. On no account should he pass a sleepless or uneasy night. If a subcutaneous injection of morphia has not already been made, on account of the pain from the wound, then, in order to encourage sleep, a dose of three grammes of chloral hydrate, in mucilage and sugar, may with advantage be given.

Effects of Bromide of Potassium in the Treatment of Young Children.—E. Montard-Martin, Phys. to the Beaujon Hospital (*N. Y. Med. Jour.*), recently read a paper on the above subject, which is translated by J. Cummiskey, M.D. His conclusions are as follows:—1st. Bromide of potassium, administered in moderate doses, is tolerated perfectly well by children of tender age. 2d. By its sedative action it relieves the insomnia of young children, whether this insomnia be calm or accompanied with agitation and cries. 3d. Administered to infants suffering from affections during the period of dentition—characterized by agitation, insomnia, cough, etc.—it succeeds frequently in relieving these complications, and by its judicious use may sometimes prevent convulsions. 4th. Bromide of potassium should not be given to children suffering from diarrhœa. 5th. In certain exceptional cases in which nervous erethism is predominant, bromide of potassium will have a most prompt and decisive action.

An Excellent Wash for Stomatitis Follicul0sa.—A writer in the *Am. Journ. Dental Science* recommends the following wash: ℞. Bromi puri, gr. vj.; Kali hydrobromi, gr. xxiv.; Aquæ destillatæ, ℥ ss. M. S. To be applied on ulcerations.

THE MEDICAL RECORD.

A Semi-Monthly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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New York, June 15, 1870.

OUR THERAPEUTICS.

THE medical profession of to-day are so wedded to the doctrine of expectancy that it requires no little moral courage to protest against it. From the extreme of polypharmacy, it has drifted into the other of doing little or nothing in the way of intelligent medication. It is true that our knowledge of the laws of disease has so much increased that our present ideas are in the main diametrically opposed to those held a quarter of a century since. This is indeed gratifying, and is the reward of much patient study, much laborious investigation, and much clinical research. As the result also of these studies we have been led to alter so very materially our notions as to the formerly accepted theories of the action of drugs that we have reduced our materia medica accordingly. So far, too, this procedure is perfectly natural, and is in strict accordance with the relations of cause and effect. We have not, however, stopped here, but have gone to the length of discarding the majority for the sake of a few, and have at the same time refused to admit others in their places. While we have been devoting ourselves to the study of other departments, we have allowed that of materia medica to dribble into a disgraceful nothingness, practically regarding it as a cumberer of true scientific progress, when in reality it should, in the very light of our advanced knowledge of physiology and pathology, be one of our most reliable aids.

The chief object of the physician is the cure of disease, or, if this be impossible, the mitigation of suffering. All his investigations must tend to that end, and if he stops short of it he betrays the confidence of the community in a wanton and highly culpable degree. Of what benefit is it to the patient to learn from his medical adviser the precise nature of his malady, the condition of his kidney under the microscope, the size and shape of his heart and the position of his valvular lesions, the mechanism of the cardiac murmurs, the nature of the process by which his lung is decaying piecemeal, the true explanation of an anasarca, the appearance of the cells from his tumor, or the rarity of his disease? This is certainly very satisfactory to the pathologist, but the poor patient looks at the matter practically. He at least is not expected to understand all the many reasons why, nor does he specially care to do it; his one and only legitimate aim is relief from suffering. One of the main duties of the therapeutist is this mitigation of suffering. It is not enough for him to assure the sufferer that his discomforts and agonies will soon cease without interference. He must be as ready to treat symptoms as to attack the disease itself. There is altogether too little of this done, and our patients are beginning to notice it. The physician who is the accomplished prescriber is the one who always retains his patients, because he is on the alert to keep him free from pain or any uneasiness. We dare not ask how often this reasonable desire of the sufferer is practically frustrated by the medical attendant if he be a deep-dyed expectant; and how much the real value of our art suffers, and will continue to suffer, in the estimation of the community, in consequence of the persistence of his practices.

The self-limited character of many of the more common diseases may for the present be established; but have future experiments with hitherto untried remedies nothing of promise in them? Must we fold our arms contentedly and look no farther? Have we arrived at the limit of our usefulness to poor humanity, and must we in future narrow our studies to physical diagnosis and pathology?

While the arguments in favor of the "let alone" treatment in self-limited diseases are comparatively few, those which might be applied to the arrestable and preventable maladies are still fewer. If we are to make advancement in the curative art we must strive to lessen the list of self-limited diseases, at the same time cutting the controllable ones much shorter. Diagnosis and pathology have opened up the way for us, but as therapeutists we are far in the rear. Investigations of diseased parts, in the hospital ward and in the dead-house, have taught us a great deal as to the nature of disease and the morbid changes which occur under different circumstances. We are being shown what we have to cure, and it is now the business of the therapeutist to learn how to cure it. This can only be done in a rational way by a proper and thorough study of the action of medicine. Herein the profession of the day are lamentably deficient, and, despite the light which science has thrown on other departments of our art, we do not much excel our ancestors. Our results of treatment are by no means brilliant in comparison to theirs, and too many of us are ignorantly groping in the uncertain light of empiricism. If the science of therapeutics received in general as much attention as it should, it is reasonable to assume that there would not be so many sceptics as to the action of drugs, and life would consequently be proportionably lengthened. Let each practitioner put the question seriously to himself, how much he individually is doing to fill up the gap of ignorance in this particular, and how few can present

a clear record. There are only a very small number of progressive men who are willing to follow the lead of the faithful pioneers who are making for us new paths; while a very large number are entirely oblivious as to what is going on about them. The time has come, if the majority of the profession are determined on progress, to look beyond whiskey, iron, and quinine, and study anew the properties of some of the older preparations, at the same time being always ready to give the newer ones a conscientious and unprejudiced trial. The means are abundant; all that is wanting is the skill and determination to adapt them to the end. There is no practitioner of the present day who can truthfully affirm that he is so well satisfied with his remedies that he needs no addition to his list. When we can find one who is, we can assure him that he will make his reputation at once by giving to the medical world his complete materia medica. Until this occurs, however, we contend that it is the bounden duty of every one to lend a helping hand to the science of therapeutics, especially at a time when there is so much distrust of the power of medicines and such blind confidence in the vis medicatrix naturæ.

Reviews and Notices of Books.

THE PREVENTIVE OBSTACLE; OR, CONJUGAL ONANISM. The Dangers and Inconveniences to the Individual, to the Family, and to Society, of Frauds in the Accomplishment of the Generative Functions. By L. F. E. Bergeret, Physician-in-Chief of the Arbois Hospital (Jura). Translated from the Third French Edition, by P. De Marmon, M.D. New York: Turner and Mignard. 1870. 12mo. pp. 182.

THE work before us is designed to call the attention of the practitioner to the physical penalties of imperfect coition. It is pretty well understood by physicians that the habit of preventing conception is very prevalent, and that many diseases of the generative functions are the result; but our author seems to have run wild on the subject, looking at the practice as the one great and almost only cause of all the ordinary neuropathies that are so common in every community. If such be really the case, there is another way aside from mere general assertion to prove it. We can understand how fraudulent connections may induce metritis, sterility, and hyperæsthesia uteri, but when we are told that cancer is not unfrequently the result, we imagine our author is attempting to prove too much.

The style of the work as a whole seems more fitted to minister to a morbid curiosity than to establish any strictly scientific point, and opens it to the suspicion that it is intended more for the general than the professional reader.

ANATOMY, DESCRIPTIVE AND SURGICAL. By Henry Gray, F.R.S, Fellow of the Royal College of Surgeons, and Lecturer on Anatomy at St. George's Hospital Medical School. The Drawings by H. V. Carter, M.D, late Demonstrator of Anatomy at St. George's Hospital, with additional Drawings in the Second and later Editions by Dr. Westmacott. The Dissections jointly by the author and Dr. Carter, with an Introduction on General Anatomy and Development, by T. Holmes, M.A. Cantab., Surgeon to St. George's Hospital, &c., &c. A new American from the Fifth and enlarged English Edition, with four hundred and sixty-two Engravings on Wood. Philadelphia: Henry C. Lea. 1860.

GRAY'S Anatomy has been so long and so favorably known to the student of medicine that we feel it unnecessary to do more than refer to the evident improvements in the new edition. In the first place, we observe that the portion devoted to General Anatomy has been entirely rewritten, and is now presented in the form of an introductory chapter of 113 pages, illustrated by a large number of new engravings, furnishing the student with a clear and admirable introduction to the study of microscopic anatomy. This chapter includes a subject entirely omitted in former editions, viz., the processes of the development of the fœtal state.

The body of the work also has undergone careful revision and rearrangement, and several errors have been corrected. A number of new illustrations will be found, besides some important additions to the text. The new edition has been reprinted under the supervision of Dr. Richard J. Dunglison, whose acquaintance with the wants of American students has enabled him to make some changes in the arrangement of the volume, which render it more convenient for purposes of reference. Altogether it is unquestionably the most complete and serviceable text-book in anatomy that has ever been presented to the student, and forms a striking contrast to the dry and perplexing volumes on the same subject through which their predecessors struggled in days gone by.

TALKS TO MY PATIENTS. By MRS. R. B. GLEASON, M.D. New York: Wood & Holbrook, 15 Laight st. 1870.

THIS is a superficial work, running over the whole category of female diseases, and keeping constantly in view the number of cases "we" have cured, after other treatment had proved unavailing. The book is neither more nor less than a plausible advertisement, intended to attract patients to some water-cure establishment in which the author is personally interested.

THE AMERICAN JOURNAL OF SYPHILOGRAPHY AND DERMATOLOGY. Edited by M. H. HENRY, M.D. Published quarterly. New York: F. W. Christern, 77 University Place. 1870.

THE title of this journal sufficiently indicates its character, if we remember that the term syphilography comprehends, as announced by the editor, "all diseases, whether general or local, having a venereal origin or lesion." The object of the journal is to lay before the profession everything of interest or value in connection with the large and important class of diseases that come within its scope. The plan of the journal includes original articles by the highest authorities, communications, reports, records, translations from foreign journals, criticisms of the latest publications, therapeutical notes, and a paragraphic summary of the current literature on the subject, both in this country and abroad. So far as we may judge by the two numbers already issued, the plan laid down for the conduct of the journal will be fully and admirably carried out. The original articles include communications from W. Boeck, W. H. Van Buren, R. W. Taylor, R. F. Weir, E. L. Keyes, Foster Swift, and M. H. Henry. The selections and translations are fresh and interesting; and, if the journal maintains its present standard of excellence, it will soon become indispensable, not only to the specialist, but to the general practitioner.

RENAL DISEASES. A Clinical Guide to their Diagnosis and Treatment. By W. R. BASHAM, M.D., of London. Philadelphia: Henry C. Lea. 1870.

THIS is a small but complete and valuable treatise, and really seems to contain nearly all that is definitely known at the present time concerning the symptoms, pathology, and treatment of renal diseases. The work is divided into three parts. The first part treats of the causes, pathology, and treatment of acute nephritis in all its varieties; the second part treats in like manner of chronic nephritis; while the third part is devoted to the properties of the urine, chemical, physical, and morphological, and their clinical significance. In

this connection the author informs us that all urine, whether from healthy persons or diseased, is capable of forming oxalate-of-lime crystals. There is therefore, in his opinion, no such thing as an oxalic diathesis. The author is evidently an acute observer and an independent reasoner, and thoroughly master of his subject. His book should be read by every practitioner and student in the land. A number of illustrations have been added to the American reprint.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

STATED MEETING, MAY 25, 1870.

DR. A. L. LOOMIS, VICE-PRESIDENT, in the Chair.

WAS THE INTUSSUSCEPTION THE PRIMARY OR PROXIMATE CAUSE OF DEATH?

DR. J. K. MERRITT, of Flushing, N. Y., after exhibiting a specimen on behalf of a candidate, gave the following history of a case in that connection:—

H. R., aged 3 years, was a robust and well-proportioned boy, excepting head, which was unusually large, but well balanced; had always enjoyed good health from birth, excepting slight ailments common to infancy. One morning this boy ate heartily of corned-beef hash for breakfast; after this he appeared perfectly well and playful. At noon he partook of a simple lunch, such as bread and milk. Soon after this meal, while playing, he began to complain of brief abdominal pain, which recurred at short intervals, with complete intermissions. During the latter part of the afternoon nausea occurred, with the paroxysms of pain, and finally vomitings ensued with apparent relief. The matter ejected from stomach was undigested food. I saw him soon after and found him simply languid, with no symptom of ailment excepting a slower pulse than natural, and nausea when rising up from a supine position or drinking a small quantity of water, both of which he was inclined to do. I saw him again the same evening; he then had a slight fever, and complained of some abdominal pain; was also suffering from an irritable stomach; thirst, but no appetite; all other conditions apparently normal. He had had two natural dejections from the bowels during the afternoon and evening. During the night he was feverish, restless, thirsty, and inclined to vomit the small amount of water allowed to drink. Next morning I was hastily summoned, and on my arrival found him in a convulsion, which had already existed about 15 minutes. He was put into a hot mustard bath, with cold affusion to head. No relief ensued, and in about 20 minutes, while in this convulsion, he died.

Autopsy 30 hours after death. A careful examination of the organs of chest and abdomen disclosed every one as perfectly healthy, excepting an intussusception in the middle third of the ileum, about three and one-quarter inches in extent, which was tightly jammed, and apparently occluding the calibre of the bowel. There was evidently an injection of the vessels of the bowel in this locality, but no lymph or other signs of inflammation. No examination of cranium was made.

Query: Was the intussusception the primary or proximate cause of death?

DR. FINNELL remarked that it was very frequent to find intussusception in children who had died suddenly in convulsions, and he was inclined to think that in the great majority of instances the lesion occurred during the agony, and was more a result than a cause.

DR. LOOMIS thought that the convulsions were due to undigested food, and that in a child of that organization they were not to be controlled when they once commenced; and further, that the intussusception was purely sympathetic and temporary, there being no well-marked signs of inflammation of the gut or neighboring parts.

DR. ROGERS was of the same opinion, and thought that the explanation was well put, inasmuch as a loss of appetite—which, by the way, this child evidently did not have—was one of the most common and prominent symptoms of organic intussusception.

EXTENSIVE OSSIFICATION OF FALX CEREBRI.

DR. FINNELL presented a portion of the dura mater, with the attached falx cerebri removed, from a man aged fifty, who had died from apoplexy, the result of softening of the brain. The specimen presented the most extensive so-called calcification that he had ever seen, it being nearly five inches in length, nearly an inch in breadth, and a full quarter of an inch in thickness.

DR. ROGERS believed that the invariable rule in such cases was that the deposit was not due to calcareous matter, but to true bone, an opinion concurred in by Dr. Mason.

DR. FINNELL expressed the same belief, remarking that such deposits of osseous matter were seen to occur in proximity to bony tissue, and *vice versâ*.

DR. FINNELL also exhibited the uterus of a woman upon whom an abortion had been produced by a quack, and who died as the result of puerperal metritis.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

ADJOURNED STATED MEETING, APRIL 18, 1870.

DR. GEORGE T. ELLIOT, PRESIDENT, in the Chair.

INTRA-UTERINE MEDICATION.

DR. J. C. NOTT read a paper upon this subject, from notes of which we give a full abstract.

After a brief *résumé* of the leading points of an article which he had published in the *Journal of Obstetrics* (Nov., 1869), upon the various indications for intra-uterine treatment, the various means devised to meet them, and especially a new and safe instrument for uterine injection, the speaker said that his attention had been of late particularly drawn to the chemical effect, upon the bloody and other uterine discharges, of most of the agents commonly introduced into the uterus in the topical treatment of its diseases. The albumen, fibrine, and corpuscles of the blood, constituting, according to Flint, Jr., about four-fifths of its bulk (according to those who reject their water of constitution, about one-fifth), are coagulated, by some of the agents roused, into a solid mass. Most of these, indeed, have a greater or less coagulating effect, not only upon blood, but as well upon mucus and the various leucorrhœal discharges, which are highly albuminous. The important points are, that some kind of chemical reaction takes place between these agents and the fluids found in the uterus and vagina, and that this must greatly modify the effect of their application. A portion or the whole of the substance introduced will be neutralized and rendered inert by the discharges which it meets. Even chromic acid, for example, may be injected into a uterus filled with blood, and pour out of it without irritating the vagina, which is extremely sensitive to its action. Stillé mentions cases where

pieces of lunar caustic have been swallowed without serious injury. Corrosive sublimate has such an affinity for albumen that the white of an egg is its best antidote. Tyler Smith says that leucorrhœal discharges, coagulated by injections, may remain in the vagina for days, and then come away in an egg-shaped mass. If this can take place in the vagina, with its large opening, it is far more likely to occur in the body of the uterus with its narrow outlet. That such coagulated masses were sometimes retained in the uterine cavity for an indefinite time, producing great irritation and protracted discharges, the speaker had had abundant occasion to observe.

If, then, inert chemical compounds are formed between the materials introduced, by injection or otherwise, into the uterus and the fluids found there, the extent to which the uterine mucous membrane is affected by the application will depend upon the proportion between the two. And this will explain the discrepancies among gynæcologists regarding the value of various intra-uterine remedies. In this city the favorite method of application is by means of the probe, wrapped with cotton and dipped into a solution of the medicament. Dr. Sims uses a curved glass rod, without the cotton, and to this not more than two or three drops can adhere. The result of this treatment must be in most cases either negative or harmful. The greater part of the substance upon the probe will be rubbed off in passing the cervical canal. What remains will very likely be thrown into a puddle of albuminous fluid; or if the uterus be flexed, as is so often the case, it will probably come in contact with only one side of the organ, where the mucous membrane may be perfectly sound, and so be only damaged by the application; or it may meet with a tuft of exposed vessels, and produce the most violent uterine colic, metritis, ovaritis, etc. It is essential to the proper effect of remedies that, preparatory to their introduction, the uterus be cleared out as far as possible by suction with a syringe. But often the surface is coated with a tenacious discharge, to remove which we must employ a weak solution of muriatic acid, common salt, or some other solvent of albuminous matter.

Led thus to the belief that intra-uterine medication had hitherto been most unsatisfactory, the speaker had made a series of experiments, which he hoped others might follow up, so as to place this practice upon a more firmly established basis.

Styptics arrest hemorrhage either by coagulating the blood or by constricting the vessels. To secure their action it is necessary to keep them for some little time against the bleeding part; this an injection into the flooding uterus often fails to do, though it may form a coagulum that will act as a tampon and so stop the flow. The most effective way to control uterine hemorrhage is to inject iodine, and then plug the cervix with cotton and persulphate of iron.

To determine the coagulating effect upon albumen of different reagents, the doctor had added to white of egg, in test-tubes, a few drops each of undiluted solution of persulphate of iron, saturated solution of chromic acid, same of tannin, same of nitrate of silver, pure carbolic acid, and Churchill's tincture of iodine. These experiments were repeated before the Society and the test-tubes handed round. The iodine produced only a flocculent precipitate; but each of the other reagents combined at once with about its own bulk of albumen, in a firm globular coagulum, which could neither be diffused throughout the mass nor increased in size by shaking.

Next, to imitate the most watery of the uterine leucorrhœal discharges, the white of egg was diluted with four parts of water, and submitted to the reagents as before.

Persulphate of iron (Squibb's solution) coagulated the whole mass into a jelly.

Saturated solution of chromic acid instantly formed a coagulum, less solid than before, but still too consistent to pass through a canula. Chromic acid the doctor considered a much more powerful intra-uterine remedy than persulphate of iron, and far more dangerous. If not neutralized by the secretions it might produce the most terrible results. It was the most destructive to animal tissues of all agents used in medicine, and a strong solution would, in twenty minutes, completely dissolve a small animal. Even its most cautious introduction into the uterus by the probe was not free from risk.

Tannin produced a coagulum easily washed away, giving the mass only a syrupy consistence. This agent had, in common with persulphate of iron, the merit of being but slightly irritant.

Nitrate of silver produced a profuse, flocculent precipitate, and sulphate of copper had the same effect. It was generally agreed that nitrate of silver is one of the harshest applications to the uterus, particularly in the fluid form. The speaker had once injected a five-grain solution, and came so near killing his patient that he had never experimented with it since. It was remarkable that it did not produce such severe results when applied to the uterine cavity in the solid form. To prove this, and to show how inefficient must be its ordinary superficial application, a long extract was read from Courty, who leaves the solid stick to dissolve in the uterus, as he claims with much benefit and no danger.

Alum produced no coagulum and so might probably be advantageously introduced into the uterus.

Saturated solution of carbolic acid in water produced a pulverulent precipitate. The doctor had found the injection of this solution give much pain, where that of iodine caused almost none. It was of much value, however, as an antiseptic.

The precipitate produced by iodine was not such as to interfere with the fluidity of the dilute albumen. There was no really potent remedy of which the uterus was so tolerant as of this. Even Churchill's tincture, undiluted, would be well borne where the most cautious use of nitrate of silver would give trouble. Of all intra-uterine remedies, iodine had most commanded the confidence of the profession. It was something more than a stimulant, a caustic, a styptic; it was a remedy *sui generis*, whose curative action could not be fully explained. The fact of its ready absorption made it especially valuable, where we wished to affect the deeper tissues of the uterus, as in chronic inflammation. Nitrate of silver or chromic acid, on the other hand, had only a stimulant or caustic action—indeed the absorption of the former would produce toxic effects.

In intra-uterine treatment we should begin by testing the tolerance of the organ, first with tepid-water only, and then with a very weak solution of iodine. Though commonly almost destitute of sensibility, yet under some conditions the uterus becomes, like inflamed periosteum or peritonæum, exquisitely sensitive. But even in these cases it can usually be educated to bear injections of the requisite strength.

The result of a series of experiments upon blood, was, in general, that most of the reagents above mentioned produced a coagulum firmer than that with pure white of egg. As before stated, the coagulum formed in the uterus by persulphate of iron, though temporarily arresting hemorrhage as a tampon, might afterwards keep up the flow by its irritant action. In a case

of metrorrhagia close at hand the speaker had used this styptic, by the advice of Dr. Sims. It had at once stopped the hemorrhage, but for five days since a discharge had been taking place. Yet there were some cases where we must use the iron and hazard the risks.

With regard to the treatment of endometritis and its complications, gynæcologists might be divided into three schools—the cutting school, the cauterizing school, and those who use no intra-uterine treatment, but depend upon vaginal injections, hygiene, and constitutional remedies. Perhaps a fourth school should be added—the eclectic, combining some elements of each of the others. Drs. Sims and Emmett were generally regarded as the representatives, *par excellence*, of the cutting school. The speaker had been much associated with them; and though he had often heard them charged with needless use of the knife and scissors, yet he had rarely seen bad results from their operations. They were both extremely cautious in the intra-uterine use of caustics; and he did not hesitate to say, from actual observation, that caustics often do more harm than comes from cutting the cervix. The Doctor said that he had but half finished his paper, but the remaining part would be published. He then exhibited his double canula for uterine injections. The injecting-tube was very small, and ran within the return-tube, which was four or five times its size and had a very large eye, so placed as to be kept clear by the injected stream. Even with all this advantage, it was often impossible for the return-current to take place after the injection of some of the solutions above described, their coagulation of the uterine fluids was so complete and instantaneous. This was demonstrated upon a rubber uterus filled with albumen.

Dr. Fordyce Barker was anxious that a paper so original in its investigations and suggestions should receive a worthy discussion, and hoped that a meeting would be assigned for this after the completed article was in print. The subject was one of the greatest importance, and it was especially fittting that a full discussion of it should be brought out in this city, where intra-uterine medication might almost be said to have originated, and where it had been pushed to a more audacious extent than anywhere else. Previous to such discussion, he would ask Dr. Nott to investigate the action of another agent, which had been his own special favorite for the last fifteen years,—sulphate of zinc. He was wont to use it especially in those more or less trying cases of menorrhagia, so frequently associated with the climacteric period, and unconnected with prominent organic disease of the uterus, malignant or fibroid, although the organ was commonly enlarged. In some of these cases the flow would be profuse, in others long-continued. For the treatment of excessive flooding in such cases, he was accustomed to employ a paste made by rubbing up one ounce of sulphate of zinc with two drachms of glycerine. This was of just the right consistence to be easily introduced into the uterus through a canula the size of Simpson's sound. He thus introduced into the cavity from three to five grains of the paste; and, in most cases, one or two applications would be followed by entire cessation of the hemorrhage. There was commonly no recurrence, and he had never seen any unpleasant symptoms result.

Dr. Peaslee could not agree to the analysis which gave eighty per cent. of the blood as organic matter, though this point was of little practical importance with reference to the subject in hand, since the very small percentage of fibrin was sufficient to coagulate the whole mass of blood for a time. As to the natural secretions of the uterus, cervix, and vagina, they were all mucous, and contained not a trace of albumen; but the abnormal discharge from an inflamed mucous membrane was albuminous, and so the experiments presented bore directly upon the conditions met with in practice. The egg obtained an albuminous envelope in passing through the oviduct, because the mucous membrane of the oviduct was in an unnatural condition of congestion. The speaker continued:—

I am very glad to have a paper upon this subject from a man of the well-known independence and accuracy which characterize the writer of this one, and I cannot help thinking that such cautious remarks, from such a Nestor of the profession, must have their good effect upon some of its younger members, who I fear are being led on too rapidly and recklessly by the brilliancy of intra-uterine medication. Just at this time the subject is become one of the most prominent, as it is one of the most important, before the profession; and, as Dr. Barker has remarked, New York is the field where its problems are to be worked out.

Dr. Kammerer had already shown that if we would use intra-uterine medication with any certainty of success, we must first wash out the uterus by copious injections. Dr. Nott has to-night shown us the reason. Still the practice of introducing substances into the cavity of the uterus is to a great extent merely empirical. There are numerous points yet to be settled with regard to it. Many persons even now doubt whether such treatment should ever be resorted to; and though I think their doubts will be dispelled in the future, yet I will say that intra-uterine medication should be resorted to in comparatively very few of the cases of uterine disease, and never except in those actually requiring it. What are those cases? What substances should be used? In what manner should they be used? Not one of these questions is yet settled. I have my own opinions; and should be willing to give the results of my experience, if the discussion is to take up the general subject of intra-uterine medication. But that might hardly be in order.

I have one or two points to suggest with reference to the nomenclature of uterine diseases. We need new terms with definite meanings. I would enlarge the anatomical nomenclature of the uterus to correspond precisely with that we now use of the heart. I would speak of the *endometrium*, the *metrium*, and the *perimetrium*. Thence we have *endometritis*, *metritis*, and *perimetritis*. In utra-uterine medication we are seeking to make our applications to the endometrium, which can only be done, as Dr. Nott has said, by first getting it perfectly clean.

As an addendum to the Doctor's remarks upon persulphate of iron (which is, I think, perfectly harmless,—certainly so in metrorrhœa and metrorrhagia), I would say that in some cases it is only necessary to apply a plug to the cervix to get the tampon effect which he describes. In cases of metrorrhagia attending the menopause, where I could not delay to send home for a syringe, I have taken a wad of cotton, tied a string to it, soaked it in a solution of persulphate of iron, letting it absorb all it would, and then passed it into the cervix. In the flaccid condition of the cervix at this period of life you can easily introduce such a plug the size of a hickory nut. It almost immediately causes contraction of the neck around it, and this contraction may continue for some hours, perhaps four. The tampon is perfect for that time, and the hemorrhage, of course, is arrested; for the uterine walls are not distensible as in post-partum hemorrhage, and you have put a stopper into the full bottle.

The injection of a solution of alum, a drachm to the ounce of water, I have once tried in a case similar to those first mentioned. It arrested the hemorrhage

instantly, and gave no after trouble. I have also made use of Cagliari's solution, of which alum is the chief ingredient, with similar result.

With regard to chromic acid, I had occasion to remark to the Obstetrical Society, three or four years since, that the only way in which I could explain the fact that cotton could be dipped into a saturated solution and passed into the uterus without harm, was that the acid never touched the endometrium at all. For if you pass a probe through the cervix, it is just as impossible for it to carry the acid to the endometrium as for a big weasel to go through a small rat-hole without touching a hair. Still you do sometimes get ill effects from chromic acid. I have used it upon a few cases, and though without ultimate bad results, yet with such symptoms as at first to give me much alarm. I do not know of any case where I should invoke its full effect, for I know of none where I should wish to remove the endometrium. I might be willing to touch a granulation with it, if I could be sure of touching that only; but of this one can never be sure. I find iodine perfectly safe and effective. So is the strong solution of persulphate of iron; so, too, are the saturated solutions of alum and of tannic acid. I do not see, then, why I should make use of such an agent as chromic acid or nitrate of silver, except, perhaps, now and then in very weak solution. And I agree with the Doctor that we should in every case begin with a weak solution, until we see what the uterus will bear. I have seen chronic endometritis (or, as I should call it, chronic *congestion* of the endometrium) cured by weak solutions often repeated. In cases of retroflexion, I think the first thing in the treatment should be to replace the uterus. I should never think of first applying anything within it, and should know of no surer way of producing adhesions of the organ in its false position than to apply chromic acid, which not rarely produces metritis. If there were adhesions already, and the uterus could not be replaced, then I would not use chromic acid; for other remedies would serve as well.

Dr. Emmet.—I must confess myself very much astonished in listening to the remarks of Dr. Peaslee. I have probably employed chromic acid more than any one else, for the last fourteen or fifteen years, using it every day in the Woman's Hospital, and getting good effects from it. And now I feel very much as Rip Van Winkle did when he woke up,—to be told that I have never been able to pass it into the uterus. Used with its own weight of water, I do not find it any stronger than nitrate of silver. I have never seen over half a dozen cases of bad effects following its use, and those were rather due to accident than to the remedy. I should prefer the nitrate of silver, were it not that the long-continued use of it hardens the tissues. Chromic acid, with an equal amount of water, is, I believe, no stronger; I have never seen it attack healthy tissue, or irritate the vagina any more than solution of iodine.

One remark further. I decidedly object to being considered a member of the "cutting school." I do not belong to any school. I suppose it would be impossible for two men to come to more opposite conclusions from the same data than Dr. Sims and myself. I claim to be eminently conservative; and some time since* I read before this society a paper on *The Surgery of the Cervix*, in which I endeavored to present these views. But if you give a dog a bad name it will stick to him. I then said that the largest number of times I had divided the cervix in any one year was twenty-three. Since reading that paper I have operated five times. I never resort to surgical means except as a last resort, as it were; and I think many of those who do not make a specialty of uterine diseases operate a great deal more than I do.

Dr. Peaslee had no doubt that Dr. Emmet was so accustomed to the use of chromic acid that he was sure of getting it into the cavity.

Dr. Kammerer.—I presume, Mr. President, that Dr. Nott reckons me in his second class of practitioners—those who deal chiefly with uterine injections. If so, he is quite right, with the exception that of late I have a slight leaning towards the cutting side. For many years I have made this subject my special study, and I use uterine injections every day. By these I mean not only those into the cavity of the uterus, but also applications to the cervical canal. In fact, the cases which require local treatment of the uterine cavity are exceedingly rare, as compared with the numerous cases we observe daily where the cervical canal demands treatment. I am in the habit, nevertheless, of injecting tepid water into the cavity of the body, as a means of cleansing it, before making any application whatever, and this even where I only intend to treat the canal of the cervix perhaps up to the internal orifice. After dilating the canal, I invariably make the injection of tepid water. I have been led to do this from knowledge and experience of the fact that albuminates do form whenever the secretions come in contact with certain salts and acids employed in the local treatment.

It is chiefly in cases of flexion, especially anteflexion, that the cavity of the uterus is often found dilated and filled with mucus. The contained fluid is rarely, however, of a purulent character; indeed, it rarely consists of thick mucus, but it is mostly clear, transparent, serum-like. This is in contradiction to what has been said by many others, but I nevertheless insist upon it. I am in the habit, as I said, of dilating the canal; and I frequently observe that, after cleansing the cervical cavity up to the internal orifice by a very small sponge, or bits of cotton, then, on dilating the internal orifice, a teaspoonful or more of clear, serum-like fluid flows out, evidently from the cavity of the body. In these cases of catarrh of the uterine cavity, I have always insisted, and do now insist, that it is extremely important to keep the canal wide. We should learn from affections of the bladder how to treat an organ like the uterus. We observe that when there is stricture of the urethra, the bladder becomes hypertrophied, and soon after the urine becomes stagnant. There is a similar condition of the uterus whenever there is stricture of the internal orifice; and you find in the cavity the thin mucus I have described. These cases often improve by simple dilatation of the internal orifice, repeated once or twice a week for a certain length of time. Gradually the hypersecretion diminishes, sometimes with no local treatment at all. But sometimes I have found that the contents of the cavity were not simply serous, but mucous and purulent; and in these cases I have invariably resorted to intra-uterine remedies.

My memory will not serve to bring up all the points that occurred to me during the reading of the paper; but a few facts I may state. That chromic acid and nitrate of silver coagulate not only the bloody, but also the catarrhal secretions, is a matter of common observation. Those who have treated hemorrhages from erosions of the cervix, which are sometimes very considerable, know that, if they bring persulphate of iron or chromic acid in contact with the blood flowing from the erosion,

* Feb. 8, 1869. The paper may be found in *Am. Jour. Obst.* for February, 1869, and report of the meeting in Med. Record, vol. iv., pp. 19, 63.

large coagula of albuminates will form, which obstruct the vagina and may be difficult to remove. Of course, if you introduce these agents into the cavity of the bleeding uterus, clots are formed which produce trouble before they are expelled. It is not necessarily the case, however, that a strong solution, injected into a cavity full of mucus, will simply form a neutral albuminate. If there be too little of the injection, the effect may be zero; but if there be more than enough to neutralize the secretions, then the caustic becomes active.

One part of Dr. Peaslee's remarks reminds me of a case that may serve to illustrate it. A lady who had been bleeding for three months came here for treatment and was sent to me. I examined her in the recumbent position. The uterus was somewhat enlarged, and the internal as well as the external orifice was moderately open. I introduced dilators, and, after full dilatation, injected cool water. To my great astonishment a fearful hemorrhage followed; while the patient was still there on the chair, the speculum filled with immense clots. I immediately resorted to a pretty concentrated solution of chromic acid, which was injected into the cavity without the slightest effect; the hemorrhage continued. I then made pressure upon the abdomen, and sponged out the vagina thoroughly, and thought I saw some erosions in the cervix. I took a brush and applied to them the concentrated chromic acid, and at once the hemorrhage ceased. Now if gentlemen think that by applying the plug to the cervical canal they have arrested hemorrhage from the cavity of the uterus, I believe that they have mistaken cases of this kind for those of hemorrhage from the cavity.

You know, Mr. President, that we have days when the devil tempts us to do just what we have often sworn we will never do. On such a day last winter, after reading what Courty and Tilt had recommended as the best treatment for uterine catarrh, I broke off a piece of nitrate of silver in the uterus, and resolved to make the trial. Now, when you break off, by accident, a piece of this caustic and leave it in the canal of the cervix, you generally find little trouble. The fragment may be easily removed with the forceps. But when you introduce the nitrate of silver into the uterine cavity, the result becomes very different, as this case and another will show. As I say, I introduced a piece of the nitrate into the cavity. The next day, the patient sent for me, and I found her in a very bad way. She had been having chills, and presented symptoms of intense prostration. It was four or five days before I could consider her fairly out of danger.

The second case was rather worse. In this also I had introduced a piece of the solid lunar caustic into the cavity of the uterus. It was upon that same ill-fated day last fall, when the Obstetrical Society was to meet at the house of Dr. Nott, that, on going to the meeting, I found a messenger from the patient awaiting me. She had been in excessive pain all day. Within twenty-four hours she took two drachms of chloral hydrate, without any effect whatever. She then had two subcutaneous injections, which gave some relief. For several weeks she lay in a very critical condition. Peri-uterine inflammation was developed, with a hard mass in one broad ligament, and it took about three months to get over this. During the three or four weeks that she lay in bed, she had parotitis of the right side; and she has now paralysis of the facial nerve, which I hope is only temporary. I could attribute the parotitis to nothing but my daring application. The patient is now slowly recovering.

Dr. Whitehead had, in cases of slight endometritis, as detected by the probe, made frequent applications of a concentrated tincture of iodine. He applied it on the cotton-wrapped probe and was sure it had reached the fundus. From this treatment he had gained not only amelioration, but positive cure. He related a case that had been under his care at the North-western Dispensary for about three years. When first seen, the cervix was immensely enlarged; the uterus was in a state of fixed retroflexion, as carefully determined; and there was purulent endometritis. To the cervix he had made applications of chromic acid, and of nitrate of silver melted on the probe, with no bad effect except that the too frequent application of the nitrate produced constriction and finally obliteration of the os, requiring incision and dilatation. Since then he had applied strong solutions of iodine, and the patient had improved remarkably. He had, in one case, found such fearful prostration, with vomiting, etc., from the introduction of a probe tipped with the fused nitrate into the cavity of the uterus, that he had ever since been very cautious about using anything but the strong iodine. He commonly employed the formula which was the favorite of Dr. Budd:—℞. Iodinii gr. lxxx., Potassii Iodidi ʒ ss., Spts. Rectificati f ʒ j. M.

Dr. Jacobi.—I am not expected to be an expert in these matters, and will occupy but a single minute. I wish to state that so far as carbolic acid is concerned, I have used the impure acid, so-called, undiluted in many cases, and have never seen any bad effects from it. As to the nitrate of silver, the advantage it offers is, that it will never act beyond the place where it is applied; and it is this advantage which has made it the pet of many practitioners. But I confess that, from this very fact, I have little faith in its producing any effect upon the whole lining membrane of the uterus, when introduced in the solid form. I think it can only affect the limited part with which it comes in contact. I would simply recall a case I had years ago, where I dropped a piece of nitrate of silver into the right bronchus of a child, through a tracheotomy-opening; and several days afterwards had the chance to make a post-mortem. I found my piece of caustic upon the side of the bronchus, solid, embedded in albuminates, having done no harm. The very neighborhood of this piece of nitrate of silver was entirely intact. There was no inflammation or even congestion around it. I imagine, therefore, that in the uterus it would be the same—that its action would be strictly confined to the parts it touched.

Dr. Barker renewed his suggestion that a future meeting be assigned for the further discussion of the subject; and the President said that arrangements would be made to hear the conclusion of Dr. Nott's paper and have it fully debated.

The Society then adjourned.

Treatment of Aphonia by External Manipulation of the Larynx.—Henry K. Oliver, M.D., physician to the Mass. General Hospital, Boston (*The Am. Jour. Med. Sciences*), after alluding to the methods of treatment commonly employed in *aphonia from paralysis of muscles of larynx*, reports six cases successfully treated by external manipulation. This method consists chiefly in the compression of the wings of the thyroid cartilage in their posterior and upper part by the thumb and forefinger. In employing this method in paralysis of the adductors, the patient is instructed to make an effort to produce a sound, like that of *a* or *ah*, or any sound of the voice whatever, while compression of the larynx is being made. The result generally is that, after a little time, a feeble voice-sound is produced, and this is followed shortly after by the full restoration of the voice.

Correspondence.

PHYSICIANS AND APOTHECARIES.

To the Editor of the Medical Record.

Sir:—Not long since you saw fit to make some remarks upon "The Relations of Apothecaries and Physicians to each Other," wherein you condemned both professions for serious shortcomings. Any one who would read that article must, I think, be struck with the idea that your condemnations are intended to lean towards the apothecaries. The physician, it would seem, is let up rather easy, where reference is made to his practical acknowledgment of an imaginary reciprocal Code of Ethics. The undersigned is striving to be an upright pharmacist, and has been inclined to devote himself as far as has been possible to his legitimate sphere; but his experience has verified your assertion as to the impossibility, under the present system, of making a decent livelihood from the prescription business. And this fact is due almost entirely to a want of co-operation on the part of the physicians. Not only do many of them, even in the city, supply their own pills, in the form of the now fashionable dragées, but, being much wedded to the percentage system, they are much in the practice of writing in cipher, so that none other, save those compounders to whom they direct their recipes, can fill them properly. The recent melancholy case in Harlem is one in point, where a life was wantonly sacrificed to the cupidity of the physician in attendance. It may not be known to you that this system is now being carried so far in another direction, but with the same intent of defrauding the apothecary, by the establishment of stock companies of physicians, who own drug stores in different parts of the town, and who make it a practice of directing their patients to said establishments, boldly assuring them that at no other place will they trust their prescriptions to be put up. Can any unprejudiced individual blame the counter-prescribing as a compensation for these outrages?

Apothecary.

New York, June 1, 1870.

Medical Items and News.

Death of an Old Journalist.—Dr. Charles Jean Baptiste Come, the founder of the *Abeille Medicale*, recently died at the age of 74 years.

A Veteran Practitioner.—Dr. Zaccheus Bass, of Middlebury, Vermont, has practised medicine for 57 years. He was Surgeon of Volunteers in the war of 1812, and was at the battle of Plattsburgh in 1814.

Anæsthetics.—The late Sir Jas. Y. Simpson, M.D., Bart., in a second letter on the "History of Modern Anæsthetics," to Dr. Jacob Bigelow, of Boston, Mass. (*Boston Med. and Surg. Journal*) dated April, 1870—the last production from his pen—alludes to the three kinds of *anæsthetics* used in practice, as follows:

Nitrous Oxide Gas, introduced by Dr. Evans, of Paris, but originally suggested by Sir Humphry Davy, in 1800, and practically and successfully employed by Dr. Horace Wells, in Hartford, in 1844.

Sulphuric Ether, first used by Dr. Morton, at Boston, in 1846.

Chloroform, first employed in Edinburgh, in 1847.

The Manufacture of Chloroform.—According to the late Sir Jas. Y. Simpson, there is a single manufactory of chloroform, located in Edinburgh, which makes as many as eight thousand doses a day, or between two million and three million of doses every year—evidence to what a great extent the practice is now carried of wrapping men, women, and children in a painless sleep during some of the most trying moments and hours of human existence.

Prof. Nathaniel Chapman's Final Examination of a Medical Student.—A writer in the *Old Guard* gives his experience with this humoristic professor, who was so long identified with the Medical Department of the University of Pennsylvania:

"I shall not readily forget Chapman's manner to me when he examined me for my doctor's degree. I was terribly scared, and very much confused, so much so that when he asked me the first question, I hesitated, stammered, and at length said: 'I—I—don't know.'

"'Don't know? Pooh! pooh! You're sitting too near the fire. You're too hot. Draw your chair back, and take time. You know well enough.'

"His manner reassured me, and I answered the question correctly.

"'H'm! Didn't know, indeed!' And he resumed his queries, which I answered. Presently he spoke of a patient that he had seen that day, detailed his symptoms minutely, and asked me to make out the diagnosis. By this time my embarrassment had returned. Things grew very much mixed in my mind, and I fell back on a plea of ignorance.

"'I don't believe a word of it,' he said. 'You are only confused. You're too hot. You're too near the fire yet. Go over there by the window, and cool yourself. There, that will do.'

"His manner was so amusing, and his apparent belief in my real knowledge so earnest, that it relieved me of my confusion, and I not only gave my opinion of the disease, but even entered into a discussion and defended my views in the matter. When I had done he looked at me with a twinkle in his eye—few who ever saw it would forget his peculiar glance at such a time—and said: 'You are perfectly right. I knew you were too hot before. If you were a son of mine I'd thresh you. Never plead ignorance until you are sure you don't know. In the practice of medicine it is highly important to keep cool, and thus be able to think quickly. If I had taken your answer at first, I'd have dismissed you, and thought all my instruction thrown away. Instead of knowing nothing, you knew all about it. Now send in another gentleman to be hackled a little.'"

The New York Physician's Mutual Aid Association.—The By-laws and Charter of this Association having been placed in our hands, and having become somewhat acquainted with its character and objects, we cheerfully recommend it to the attention of the members of the profession in the counties of New York, Westchester, Kings, Queens, and Richmond, which are its boundary.

"Any regular member of the Medical Profession (of the above counties), and in actual practice, or teacher or professor in a medical school under seventy years of age, may be admitted a member."

"The object of the Association shall be to afford relief to the widows and children of its deceased members, by such contributions as may be required by the By-laws. Initiation fees $2, and an assessment of $1 from those under fifty years, and $2 from those over fifty years, payable on the death of any member in advance, for the next deceased member, so that the

amount due his widow and children can be paid within forty-eight hours, if need be."

There is also a permanent fund being created, and as soon as it amounts to a certain sum, out of the interest thereof the Trustees are empowered to make appropriations to the widow and children, in cases of *special* necessity.

The Association already numbers nearly three hundred members, including many of the more prominent of the profession. It is the purpose of the Trustees to double the number before the next annual meeting, and they therefore call upon the members to procure as many applications as possible, and if the number can be swelled to a thousand, so much the better for all interested. And why not?

We have given this brief outline of the Association, with our hearty God-speed. At some future period we may enter more fully into the benevolent features of this Association.

American Medical Association.—Dr. W. B. Atkinson, the Permanent Secretary of the American Medical Association, proposes shortly to publish an official copy of the last meeting at Washington. Those who are specially interested in the doings of the body will thus have an opportunity for consulting the proceedings in extenso, without the delay attending its appearance in the regular volume of the *Transactions*.

Prof. C. L. Ford, of the Long Island College Hospital, Brooklyn, N. Y., left on board the *Marathon* for Europe on the 21st ult.

We learn that he expects to return in time for his next course of lectures.

The Virtues of Sarsaparilla.—Dr. T. C. Allbutt, in *The Practitioner*, advises the use of sarsaparilla in certain cases of syphilis, and gives it as his opinion that the drug has gone out of fashion without sufficient reason. He quotes several of his own cases in which he obtained results from sarsaparilla that he could not obtain by either mercury or iodide of potassium.

Whence Cometh Petroleum?—Vast forests of sea weeds grow at the bottom of the ocean. The heat from the interior of the earth under the bottom of the sea distils the sea weed and liberates the oxygen from the hydrogen of the surrounding water and forms petroleum.

The Action of Tea upon Nursing Women.—Dr. William Goodell, of Philadelphia (*Am. Jour. of Obstetrics*), recently stated to the Obstetrical Society of Philadelphia, that tea seemed to him to act as a positive stimulant to the secretion of milk.

Polarization by Reflection First Discovered.—John E. Hurlbut, M.D. (*Chicago Medical Times*), reminds us, in his paper on "The Microscope," that it is to Malus, who, in 1808, discovered polarization by reflection, that we are indebted for the series of splendid phenomena which have since that period been developed.

The Action of the Polariscope.—So delicate is the action of the polariscope that it will detect, as Dr. Herepath has demonstrated, one-millionth of a grain of quinine, an amount so unappreciable, that the nicest means of chemistry fails in its discovery.—*Chicago Med. Times.*

Average Income of the Berlin Practitioners.—Dr. Schlesinger writes that the average income from the practice of medicine of each practitioner in the city of Berlin, is about 600 thalers—$450—per year. This would not pay the rent of a decent office in our city.

A New Alloy.—A new alloy of hydrogen and mercury, or hydrogenium amalgam, has been discovered by Prof. Oscar Loew, of the College of the City of New York.

A New Use of Electricity.—M. Scoutetten proposes to apply this agent to the rapid ripening and improving of new wine.

A Humiliating Spectacle.—The Paris correspondent of the *British Med. Journal* writes that a few weeks ago a motley multitudinous procession was seen proceeding to the cemetery of Mont-Parnasse. The crowd was chiefly composed of male and female rag-gatherers: the occasion of the muster of this filthy Parisian fraternity was the funeral of Dr. Genson, a man who quite recently had an excellent genteel practice, and a good social position. The bottle clothed him in rags, and made him the doctor of the rag-gatherers. His abilities were good. He prescribed across the counter to his patients, who were very numerous, and had unbounded faith in his skill. After his coffin had been placed in the *fosse commune*, three patients of the deceased delivered funeral discourses. The first speaker was an ex-notary; the second, an ex-advocate; and the third, an ex-sous-préfet,—all three now practising the nocturnal profession of street rag-gatherers, and inhabiting the Ile des Singes!

Speedy Cure of Aneurism.—Mr. Erichsen delivered a clinical lecture upon a case of aneurism of the profunda femoris, cured by compression in twenty-four hours on March 21st. There was a large aneurismal tumor at the upper part of the thigh in a patient, in which, on admission, neither thrill nor pulsation was discoverable at first, but which afterwards began to pulsate and increase in size. The pulsation was moving rather than expansile. The diagnosis of the case was that it was aneurism of the profunda femoris.

As pressure on the common femoral artery arrested the signs, Carte's compressor was employed; but the patient was irritable, and bore the compression very badly. Forty grains of chloral were administered, and he slept deeply for twelve hours, during which the compressor was maintained *in situ*. For the next twelve hours digital compression was employed, and all the signs ceased. Thus in twenty-four hours a cure was effected. The thigh decreased in circumference an inch and a half.—*Med. Press. and Circular.*

Morbid Sympathies of the Urethra.—In a recent clinical lecture by Mr. Paget he remarked on the morbid sympathies of the male urethra, which were quite peculiar to that mucous membrane. Syncope sometimes follows the passing of a catheter, as also epileptiform convulsions. These effects, however, only arise when the patient is standing, never when he is lying down. Rigor after passing catheters was said to be commonest in persons who had suffered from ague or lived in hot climates, and might often be prevented by the administration of alcoholic fluids. Mr. Paget mentioned that he had known death follow from simply sounding for stone in six cases. Pyæmia occasionally follows catheterism or lithotrity, apparently from irritation of the urethra, without any injury being done to its structure. Urethral rheumatism, he added, is a complaint presenting many points of resemblance with pyæmia. Any inflammation of the urethra may be followed by swelling and effusion into the joints, whether such inflammation were contagious or not.—*Med. Press and Circular.*

CHLORAL CAPSULES.—In the *Bulletin Générale de Thérapeutique* for March 30th, there is a paper by M. S. Limousin, on a new mode of administering the hydrate of chloral—namely, in capsules and comfits. The disagreeable impression left on the mucous membrane of the mouth from the contact of the drug, and the fact that it, though solid and crystallized, is volatile and extremely deliquescent, forbid its administration in the form of a pill. M. Limousin was then led to avail himself of the property which chloral possesses of becoming fluid at a comparatively low temperature (114.8° Fahr.), to introduce it under a liquid form into capsules or comfits, in which it speedily solidifies. These capsules contain 20, 25, or 30 centigrammes of the drug, as the case may be.

THE GERM-THEORY OF DISEASE.—Dr. Bastian replies to Professor Tyndall's last letter in the *Times*, and denies the probability that lung-filtered air should be unable to produce putrefaction, and asserts that putrefaction may occur *in vacuo* and after the destruction of all germs. He declines at present to explain the particular facts alluded to by Professor Tyndall, considering it sufficient to point out that they do not necessarily bear the interpretation which had been given to them. —*British Med. Journal.*

A SINGULAR SPECIMEN.—Before the London Pathological Society, on April 5th, Dr. Beigel exhibited the pubic parts taken from the body of a member of the religious sect in Russia known under the name of the Skeptis. The penis, scrotum, and testicles are removed with one sweep. The specimen was the first which had been obtained in Russia, so successful had the sect been in preserving secrecy.—Dr. Beigel also exhibited some photographs of members of the sect showing the change in physiognomy following the removal of the genitals.—Mr. HULKE remarked that the same method is carried out in the Levant. Much difficulty was often felt there by the eunuchs in passing urine, and many carried a catheter.

A NEW TEST FOR ALBUMEN.—Dr. C. Meymott Tidy, Joint-Lecturer on Chemistry at the London Hospital, has noted that a mixture of equal volumes of acetic and carbolic acids is a far more delicate test for the presence of albumen than any other method that has been proposed. In using this test with urine, it is necessary to shake the test-tube, as some opacity is produced by the mere admixture of fluid, which, however, disappears on agitation.

LADY DOCTORS.—Two out of the five lady medical students in the Edinburgh University are in first class honors in Chemistry, and two in second class honors. In Physiology, one lady appears in first class honors, and three in second class honors.

TRANSMISSION OF SYPHILIS BY VACCINATION.—The late Austrian Minister of the Interior, Dr. Giskra, was asked some days ago by Dr. Roser, in the Parliament, whether it was known to him that a number of children in Styria had been infected with syphilis through vaccination. Dr. Giskra replied that it was true that fifty-five children had been infected through lymph obtained in Vienna by Dr. Kolisch.—*British Med. Jour.*

NEW SOURCE OF QUICKSILVER.—A layer of quicksilver ore has been recently discovered in the district of Sarawak, Borneo, which ore promises to be one of the richest in the world.

FOOD REQUIRED FOR MAN.—Man requires 1·23 of his weight in daily food, to supply the waste of tissue continually going on in his body; if the waste is greater than the repair, death ultimately ensues.

SQUILLS AS A POISON FOR RATS.—Recent experiments show that squills—*Scilla Maritima*—the bulb of which is much used in medicine, is not only a powerful poison for rats, but also one they are very fond of.

ANOTHER DEATH FROM BICHLORIDE OF METHYLENE.—While a healthy-looking man, æt. 40, was placed on the operating table of Guy's Hospital, London, for the purpose of having an iridectomy performed in each eye, one drachm (measured) of methylene was administered. The operations on both eyes were completed, and the patient left on the couch, while one of the assistants noted down the nature of the operation. About 3 minutes had elapsed, when it was noticed that the respiration was shallow and catching. There were a few gasping inspirations, then all ceased. For about ten minutes the galvanic current, and for about an hour artificial respiration, were employed without success. —*British Med. Journal.*

DISCOVERY OF CELLS AND FIBRES IN DENTINE.—Geo. B. Harriman, D.D.S., Boston (*The Am. Jour. Dental Science*), opens, in an article on "The Discovery of Cells with Fibres in Dentine," with the question—What are we to understand by the term tubuli? By Kolliker, and almost every other writer on the subject, "tubes and tubuli are hard pipes which admit of the passage of fluid." By the author of a paper in the *Dental Cosmos*, for February of the present year, they are likened to the "tubes of a boiler and hollow columns of a building." From repeated experiments, Dr. H. is prepared to demonstrate and prove that these so-styled "tubuli" are cells and fibres which radiate from the pulp cavity and terminate at the junction of the enamel and cementum. At this point these cells and fibres can be frequently seen as real soft solids, as much so as the fibres and cells in cartilage. A careful examination with a microscope of medium high power, from four to seven hundred diameters, will demonstrate, he thinks, that no fluid passes in these so-called "tubuli." What is seen are calcareous salts.

GENITO-SEMINAL NEUROPATHIA.—John P. Mettauer, M.D., LL.D., of Virginia (*Boston Med. and Surg. Journal*), believes that this malady, termed progressive locomotor ataxia, is quite a manageable malady, especially in its earlier stages. During the last 25 years he has treated numerous cases of this disease, and has yet to meet with the first patient not greatly benefited or cured. The writer adds that females are fully as often affected with the disease as males, especially those who have indulged too freely in sexual intercourse or masturbation.

MONUMENT TO DR. HORACE WELLS, THE DISCOVERER OF ANÆSTHESIA.—The Dental Association of Hartford, Connecticut, will shortly erect in that city a prominent monument or statue to the memory of Dr. Horace Wells, formerly a practising dentist, in honor of the great discovery which has conferred such blessings on suffering humanity.

ILLINOIS OPIUM.—William Proctor, Jr. (*Jour. of Pharmacy*), after carefully analyzing a block of opium two inches square, extracted from poppies raised in the State of Illinois, finds that the residue does not contain more than one-fifth of one per cent. of morphia. Assuming all of the white crystalline residue to have been morphia, it is sufficient evidence of the worthlessness of this so-called "opium," which is in reality merely extract of poppies.

On inquiry as to the manner of obtaining this substance, it was understood to be made by the process of Wilson, of Vermont opium notoriety, by expressing

the juice from the whole plant, leaves, stalks, and capsules, and evaporating the juice to the proper consistence without any extraction of the special juice of the capsules by incision.

Heroic Treatment.—Dr. Francis Mason, of London (*British Med. Journal*), in a late address before the Medical Society of London, gave an amusing account of the heroic treatment adopted in the days of Dr. Lettsom, not the least remarkable examples of which were the case of a lady to whom, for some irritation about the rectum, one hundred leeches were applied—she died exhausted by the hemorrhage; and also a case of ophthalmia, which required no less than two hundred leeches, besides free venesection, to arrest the inflammation.

The Average Duration of Sclerosis of the Nervous Centres.—Dr. Meredith Clymer, of N. Y. (*N. Y. Med. Journal*), states that the average duration of this affection may be put down at from eight to ten years. In 17 fatal cases, it lasted for two years in 2, five to ten years in 9, thirteen years in 2, seventeen years in 1, twenty years in 1, and twenty-four years in 1. The age of death in these cases was: from twenty-five to thirty, 2; from thirty to thirty-five, 5; from thirty-six to forty, 4; from forty-one to forty-five, 2; from forty-six to fifty, 2; from fifty-one to fifty-five, 1.

The Microscope.—The Microscopical Society of Illinois lately met in Chicago, and exhibited slides and instruments valued in the aggregate at $10,000. Among the most interesting specimens exhibited was a slide which contained the Lord's prayer, engraved on the 1-558th of a square inch, and distinctly legible through the microscope.

Secretion of Tears.—Before the Manchester Medical Society, at a recent meeting, Mr. Lund read a paper on the Effects of the Secretion of Tears on the Circulation in the Brain. He related the case of a lady who, about ten years since, after hearing suddenly of the death of a son, was seized with a violent paroxysm of grief, shed tears profusely, suffered for some days from frontal headache and great cerebral excitement, and then recovered. Lately, this same patient received news, by letter, of the supposed death of another son abroad. The circumstances were peculiar, and, when the letter was read, while all the family around were greatly affected, it was noticed that, contrary to her usual habit when much moved, she did not shed a tear. In about two hours afterwards, while sitting at dinner, she suddenly exclaimed, "Oh! my son, I shall never see him again!" and immediately she was seized with right hemiplegia. There was no other form of paralysis, and no aphasia. The total loss of power, with partial loss of sensation, in the right arm and leg remained for nearly five days, after which the paralysis gradually ceased, and, at the end of three weeks, all traces of it were lost. During this time, it was declared by her friends that she was never seen to shed tears. The inference drawn from these facts and from other singular cases referred to was that, on both occasions, under the excitement of intense grief, certain parts of the brain, most probably the thalami and striate bodies, which have been called the *emotional ganglia*, were the seat of vascular congestion; that, on the first occasion, this vascularity was in some way relieved by the secretion of tears, but, on the second attack, the secretion of tears not occurring, the congestion of the ganglia persisted for a certain time, and this state and the paralysis were associated together as cause and effect. It was assumed that one use of intense lachrymation, as an emotional secretion, was to relieve the excessive *intracerebral vascular congestion* of certain parts, which, if allowed to go too far or to be too long sustained, would damage the structures and cause suspension of their functions. The whole subject was illustrated in many ways, and the paper, which was very interesting, caused considerable discussion.—*British Medical Journal.*

Balsams and Cubebs in Diphtheria.—The treatment of diphtheria by balsams and cubebs has been for some considerable time before the profession, in consequence of the recommendation of Dr. Trideau and others. It is now attracting new interest in consequence of the recent publication of the results of the internal use of cubebs as prescribed in forty-two cases by Dr. Bergeron at the Hôpital Sainte-Eugénie. This method is recommended as a substitute for, and as superior to, the plan originally recommended by Bretonneau, subsequently practised and energetically enforced by Trousseau, of thoroughly cauterizing with the solid nitrate of silver the surfaces invaded by false membrane. The main object for which the caustic is used is to modify the morbid action of the mucous membrane, and thus, in particular, to prevent the formation of false membrane proceeding from pharynx to larynx; in other words, to prevent that form of diphtheria to which French writers, following Bretonneau, generally apply the term "croup," restricting the use of, and so giving an intelligible meaning to, the old and too loosely applied Scottish vocable. Here we do not mean that an affection has any pathological relation to "croup" when we say that it is croupy (*croupale*). Stridulous laryngitis is croupy, and laryngismus stridulus is croupy; but neither is croup, according to modern French nomenclature. Dr. Bergeron thinks that the object for which Bretonneau used caustic is more easily and certainly attained by giving cubebs internally. He says that children will readily take, in the course of twenty-four hours, from ten to twenty *grammes* of the *saccharure de cubèbe*. It is dissolved in water, and divided into several doses. —*Paris Cor. British Med. Journal.*

Local Treatment of Eczema Rubrum.—Dr. John Kent Spender says, in the *British Medical Journal*, the two main points in the treatment of this affection are, (*a*) to apply something which cures as well as soothes; (*b*) never to put over that application any impervious covering.

Eczema Rubrum is very common on the skin of the leg and of the ankle, and is often connected with varicose veins. The irritation which it causes may be alleviated by dusting the part with dry astringent powders, and by painting on the pharmacopœial preparations of glycerine; but it is seldom that a cure is effected in either case. Ointments of every kind are hurtful. After many trials of various remedies, I found, some years ago, that the common black wash (lotio hydrargyri of the *Ph. B.*) is a very effective application. I mix with it a tenth or twelfth part of glycerine by measure, and then shake it well. A small quantity of this mixture being poured into a wide shallow vessel (as a saucer), strips of linen rag are soaked in it; and, after being lightly squeezed, are placed evenly and smoothly round the affected part of the limb, a portion of the black oxide of mercury adhering to the linen. Each strip should overlap the one above by nearly a quarter of an inch, so as to present an uniform surface covered by the dressing. A *thin* calico bandage will secure everything in its place, and keep it so. Between the dressing and the bandage there should not, on any account, intervene any impervious covering, such as oiled silk or a sheet of gutta percha. Such may appear to have the immediate advantage of preserving the moist-

ure of the linen; but the disadvantage is decided and obvious—that the secretion of the diseased skin is prevented from evaporating, and it rapidly decomposes. Hence, not only is the eczema not cured, but fresh tracts of skin are liable to inoculation. A large area of the limb may become red, hot, and spongy, thin serum streaming out at every pore; and probably the limb is enlarged by œdema of the subcutaneous structures. Renew the dressings twice a day, and no harm follows their becoming dry, provided that they are completely saturated with warm water before removal. They are then easily taken off without hurting the patient or damaging the healing skin. Since 1860 I have treated a number of cases by the method now related, and I have been successful in all but three or four. And the defiant behavior of these few suggested the application of a strong nitrate of silver solution before putting on the linen steeped in black wash; and this plan answered completely.

Prostitution in Japan.—Prostitutes in Japan are obliged to live in certain quarters of the town, surrounded by high fences or canals. In Yokohama there are said to be 1,020 prostitutes in this forlorn quarter. But it seems that there is plenty of clandestine prostitution also, as the ill-paid officials are ready to be bribed by the poor slaves to man's ill-regulated appetites. The women attend at the lock hospital for examination weekly, and yet with all this, Mr. Acton mentions in his book that syphilis is particularly malignant in that city.

Flies the Propagators of Malignant Pustule.—The Paris correspondent of *The Chicago Medical Journal* asserts that M. Davaine has clearly proved that flies can inoculate the malignant pustule three days after having sucked the blood of an animal affected with this disease. He is not yet prepared to declare that three days is the extreme limit.

To Preserve Milk.—The Parisian method of preserving milk for a long period is as follows: Six grains of bicarb. pot. or sod. is added to each quart of fresh milk before the cream has risen, bottled, tightly corked, and then placed in a water-bath, heated to 190 degrees, and not more—the cork is then coated with wax.

Psoriasis.—Phosphorus is highly recommended for psoriasis. It should be administered both internally and externally.

Minnesota State Medical Society.—On perusing the *Transactions of the Minnesota State Medical Society*, we notice that this organization enumerates among its members quite a number of the recent graduates of the Medical Colleges of New York, who are distinguishing themselves in advancing medical science.

Where the First Dissection was Made.—The Venice correspondent of the *Chicago Medical Examiner* writes, that he stopped a few hours at Bologna in order to visit the *old* and once celebrated University of Bologna; an institution which numbered at one time 4,000 students and 300 professors, its medical school being for a long time the most celebrated in Europe. It was here that the first human body was dissected, and the first anatomical preparations made. The museum is still one of the most complete and extensive in the world, both in human and comparative anatomy. It is a curious fact that several of the most important chairs—those of History, Natural Philosophy, Literature, and even Anatomy, have at different times been filled by *ladies*. The University is still well maintained, there being some 400 students in attendance.

Mortality of Parisian Infants.—Fifty-three thousand infants are annually born in Paris; of these 25,000 are sent out to be nursed, and at the end of every year 12,000 or 13,000 of these little ones are dead.

Epileptoid Convulsions Caused by Carious Teeth.—Dr. John W. Booth, M.D., of Tally-Ho, N. C. (*Am. Jour. Med. Sciences*), recently visited an unmarried lady who had had daily epileptoid convulsions for four years, affecting principally some of the muscles of the neck and the right arm.

In giving the history of the case, she stated that her first spell came on during an attack of toothache. Upon examining her mouth, Dr. Booth found half a dozen carious teeth, which he immediately extracted. There has been no return of the convulsions since. The patient has improved considerably in flesh, and presents no anæmic phenomena, which previously existed.

Relations of Physical Forces to Disease.—Dr. F. Homer Blackman (*Chicago Med. Examiner*) states that his ideal method of studying diseases is by noting the temperature in connection with the physical forces. The following conclusions he believes to be warranted by recent scientific research; namely, that motion, chemical affinity, heat, light, electricity, magnetism, and nerve-force are convertible, each into the other, both qualitatively and quantitatively; that large quantities of these forces surround every form of matter; that these forces are particularly subject to change, in their relative proportions, especially when existing in relation to that form of matter known as gaseous; that these forces as they exist in the body are evolved during the processes of respiration, digestion, and assimilation; and that they sustain a certain quantitative and qualitative relation to each other, which relation cannot be disturbed without more or less disastrous effects being produced in the organism; that the relations sustained to each other are qualitatively the same in living as in organic bodies; that the stability of the relations differs much in different organisms, and also in the different stages of their development and growth; and, finally, that no system of etiology which does not recognize the influence of the so-called physical forces, singly and combined, in the production of disease, is worthy of serious attention.

Colors Used for Injection of the Liver.—The clever microscopist and pathologist, Dr. H. D. Schmidt, of New Orleans, La. (*N. O. Jour. of Med.*), recommends the following colors for injection of the liver: Prussian-blue for the duct, chrome-yellow for the artery, vermilion for the portal vein, and white for the hepatic veins. He formerly used chrome-yellow for the hepatic duct, but he finds the prussian-blue preferable.

New Publications.

Books Received.

The Medical Register of New York and Vicinity for the Year Ending June 1, 1870. Published under the Supervision of the N. Y. Historical Society. R. Lee Jones, M.D., Editor. Vol. VIII. New York: Bradstreet Press. 1870.

Erratum.—On reviewing the item in our department of Progress of Medical Science styled, "Doses for Hypodermic Use," published in the issue of June 1st, we notice that the quantity of water is put down in the solutions of Aconitine, Atropine, Strychnia, and Morphine as being ℥ j. It should read ♏ j.

Original Communications.

ANTERO-POSTERIOR SYMMETRY, WITH SPECIAL REFERENCE TO THE MUSCLES OF THE LIMBS.

By ELLIOTT COUES, A.M., M.D., PH.D.,

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ARTICLE II.

MORPHOLOGICAL POSITION OF THE LIMBS—THEIR DEVELOPMENT AND SUPERFICIAL SYMMETRY—DETERMINATION OF CORRESPONDING BONES.

EVEN the brief of evidence already given may have had the force of virtual demonstration of antero-posterior symmetry; if not, further judicious questioning of the limbs will produce the desired result. It is possible to prove—if anything outside of mathematics can be proven—that the extremities are reversely repetitive. Type is set right-left; print is read left-right: one is a symmetrical impression of the other. So is each limb—in plan or 'idea,' that is, though actually distorted in answer to the requirements of teleology. A straight rod, plunged part way into water, looks bent; but the deceptive appearance is due to the medium, not to the thing observed: our vision is at fault; the difficulty is subjective, not objective; the stick is straight enough. Much of the difficulty we may meet with is rightly suspected to be due to imperfect and distorted vision of ours: teleology is a highly refractive medium through which to view morphology; it is nevertheless our only one.

At the outset we may successfully dispose of a glaring but superficial obstacle. By pronation, in cases of man and other animals that have a perfect radius and ulna; by a corresponding provision in other cases; both hands and feet point in the same direction—forward. Ends of fingers and toes are both anterior; anconal and rotular aspects of the terminal segments are in front of, respectively, carpus and tarsus. Here is asymmetry at once: for the fingers and toes should point in opposite directions; and furthermore, bones of the forearm are *crossed*, while tibia and fibula remain parallel. But a moment's reflection will suffice to convince us of the extreme improbability of such crossing of bones of a segment being their real morphological status; and how probable it is, therefore, that pronation, whether permanent, as in the horse, or temporary, as in man, is merely a teleological device. Supination not only removes this last obstacle, but dissipates the more serious one first adduced. Embryology * unmasks the forearm, and shows that such uncrossing of the bones of that segment is not only warrantable, but imperative.

The primitive limb-buds project at right angles from the sides of the body. Before the upper arm and thigh are fully evolved, there occurs a downward (*i.e.*, bellyward) flexion of each member, producing convexities corresponding to the future elbow and knee. The palms and soles are vertical and both face inward (*i.e.*, toward the median line of the body). With further growth, the elbow swings backward toward the side of the chest, the knee forward toward the side of the belly. The palms now look forward, the soles backward: the two limbs are up to this time essentially similar and symmetrical in position. Next ensues the gradual pronation of the forearm, producing asymmetry; that is thus seen to be an afterthought,* so to speak—not a morphological condition.

In comparing fore and hind limbs, therefore, in respect of their morphology, the first-named must be taken in position of perfect supination. Supposing now the body to be suspended horizontally, with the limbs hanging downward, and all the segments slightly flexed upon each other successively in opposite directions, the following would be the absolute and relative positions of the two members:—

Scapula (and scapular arch) pointing forward; ilium (and pelvic arch) pointing backward; humerus backward, femur forward; forearm forward, leg backward; carpo-metacarpus *backward*, tarso-metatarsus forward; the two latter segments bearing with them their respective phalanges, which consequently point in opposite directions, and would if flexed, bend under in opposite directions; but it is not necessary to take the digits into special account. The shoulder would point forward, the hip backward; convexity of elbow backward, of knee forward; convexity of wrist forward, of ankle backward; palms downward and forward, soles downward and backward; nails of all the digits uppermost, and looking toward each other. The back of the arm would correspond to the front of the thigh: the front of the forearm to the back of the leg; back of the hand to "instep," palms to soles, &c. Humeral condyles and articular surfaces look forward; those of the femur backward; the heads of these bones are both bent inward toward the axis of the body; their tuberosities or trochanters both look the other way. In short, the general antagonism and consequently the symmetry or antitypy of the two members is seen to be complete, except in one notable respect: the two-jointed thumb is on the outside, while the biarticulated great toe is on the inside, each of its own limb. By position they thus correspond each to a digit with three internodes; viz., thumb to little toe, and little finger to great toe: to this I shall presently refer again.

Surveying the limbs as wholes, we thus find them to be almost perfectly symmetrical, in respect of axes of direction of their several segments, flexions and extensions, reëntrances and saliences, and other superficialities. We have next to look more than skin-deep, in search of corresponding parts and organs. In this endeavor, it will be evident that neither form nor function has much to do with determination of homologies.† For shape, like size, is a thing of degree—of more and less—not of kind; and may vary interminably. Function is of course purely teleological, and therefore always represents special, not general, conditions; *e. g.*, the human sartorius is a peculiar flexor cruris; that of the bird is an extensor cruris. It will be found, of homologous organs, that "each in its turn plays many parts." Position and relation are the only safe guides. The law may be enunciated, that—

Corresponding parts are symmetrically disposed.

We will somewhat rapidly survey the bones, as an antecedent step to determination of the muscles; for identifications of the latter depend in greatest part

* *Fide* WYMAN, "*On Symmetry and Homology in Limbs;*" Proc. Bost. Soc. Nat. Hist., June, 1867, pp. 251-2; whence the following paragraph is complied in default of original investigations of my own.

* Really a teleological necessity; for without pronation of the forearm, the forelimb of quadrupeds would be useless for progression: since the hand, paw, hoof, flipper, or whatever special shape the extremity might assume, would point backward, and counteract the hind member; resultant of motion between the flexion and extension of the two limbs would be directly upward, not forward. So the forearm must be twisted around, through 180°.

† Having sufficiently indicated the difference between "homology," "homotypy," "antitypy," etc., I may, without danger of misleading the reader by ambiguity of language, hereafter use these words interchangeably, merely to avoid as far as possible monotonous repetition of expression.

upon those of the former. The bones are at once the soundings and bearings of the muscles.

No anatomists of note who adopt the idea of any sort of fore and hind correlation, now dispute the correspondence of the scapular and pelvic arches as wholes. All likewise agree that the main bones of the two—scapula and ilium—are antitypes. There is difference of opinion in respect of the other two of the three bones* that compose either arch. Owen holds coracoid and ischium to be homologous hæmapophyses; and consequently identifies pubis with clavicle. Clavicles and pubes may be hæmal spines, and be therefore homologous; but it is not determined that these are not also hæmapophyses; if so, we have choice of two hæmapophyses in each arch, one of which may be referred to either of the others. Wyman, from a different standpoint from Owen's (as far as can be gathered from his guarded expressions), makes no such special reference to the elements of a vertebra that these bones may form parts of, and determines, according to relative position alone, that the pubis is the representative of the coracoid, and the ischium of the clavicle. If it were clear that clavicles and pubes are hæmal spines, there would be no doubt in the case; but as it is, the dilemma is one of extreme difficulty. Wyman's identification is in accordance with the principle just laid down; clavicle being situate furthest forward, ischium furthest backward; coracoid and pubis respectively furthest backward and furthest forward. Yet I rather incline to the other view, with a proviso, as will be explained in treating of the muscles whose identifications appear to hinge upon this question.†

Regarded as symmetrical parts, the humerus and femur present no difficulty whatever; they are exactly correspondent. Various ingenious and profitless speculations, not necessary to particularize, have been wasted in the attempt to make them out to be serially or consecutively homologous, instead of reversely repetitive.

The patella is unquestionably a sesamoid, and therefore not an endoskeletal integer. No observed fact, nor valid analogical reasoning, supports the assumption of some, that it is a 'detached olecranon' from either tibia or fibula.

Various and curious views have been entertained respecting the homology of the bones of the forearm and leg: mostly based upon a presumption that these segments are 'serially' related. Both ulna and radius have been compared with leg-bones of the *opposite side* of the body: *parts* of either, again, have been referred to parts of tibia and fibula; &c. Such speculations, more amusing than instructive, merely require passing allusion; only two other views need be noticed. One of these is Owen's, and others'; —that the fibula repeats the ulna, and the tibia the radius. It is apparently based in some measure upon certain peculiarities in the contour of the head of the fibula of monotremes and marsupials; this bone there developing a great process resembling an olecranon; and, for the rest, upon some such fact as that, in the horse, *e.g.*, ulna and fibula are both reduced to mere anchylosed appendages of the radius and tibia, which alone bear, respectively, the fore and hind hoofs: so that here, apparently, radius = tibia. In the case of the horse, etc., it is merely development of corresponding bones of the two extremities in inverse instead of direct ratio; this is a teleological modification, not interfering with morphological homologies further than to obscure them. In some of the pedimanous mammals that develop perfect and movable leg-bones, the end of the fibula largely articulates with the astragalus, and the foot enjoys motion closely resembling, if not the same as, pronation and supination; here the fibula may "rotate" about the tibia precisely as, and nearly to the same degree that, the radius does about the ulna. If any morphological conclusions are warrantable from these conditions, they are as largely in favor of the view here advanced, as degradation of the fibula in the horse is for the contrary opinion. In the former case: it is as certain that the fibular fabella upon which stress has been laid is a sesamoid, as that the patella is one; nothing can be assumed from this. Again, the spatulous head of the fibula, in monotremes and certain marsupials, is not in subserviency to an extensor cruris, as the olecranon is to the extensor cubiti, but to the peroneal muscles that act upon the foot; it is not therefore even teleologically analogous to an olecranon, still less morphologically homologous. Once more; the ulnar olecranon is really all *shaft* (or 'continuity' of the bone) except a small epiphysis: in some mammals it is much more largely developed than in man; its posterior homotype is the "tuberosity of the tibia," or corresponding part of that bone; which in some birds, as, *e.g.*, *Puffinus*, *Colymbus*, *Podiceps*, et al., is prolonged into an immense "process" (so-called, but really continuation of the shaft) above the knee, giving extensive and highly advantageous insertion to extensores cruris. Adducing such facts as these is ploughing with an adversary's heifer indeed; nor need we galvanize a dead thing for the sake of killing it over again. In archetypal condition, neither of the four bones under discussion has any special development as to shape or function: the two of either limb are precisely similar parallel bones. Position is the only guide; the inner bone of the leg corresponds to the inner bone of the arm; the outer of the leg to the outer of the arm; tibia to ulna; fibula to radius. Comparative anatomy refuses to support the contrary surmise.

The tarsus so obviously repeats the carpus, that there is nothing to be said of these segments as wholes. Identification of individual bones of each, however, is difficult, if not impossible, in some instances. This is a consequence of the variable number (*e.g.*, two—tarsus of frog; eleven—carpus of armadillo; *fide* Wyman), shape, position, and function of the little bones. Form

* The student of human anatomy alone may require to be warned that his coracoid "process" is confluent not connate with the scapula, and therefore a distinct "bone," as it actually is in lower classes of vertebrates, as birds, *e.g.*, where it has sternal and scapular *articulation*.

† In respect of the nature of limbs, there are two conflicting and apparently irreconcilable theories. Owen modified Oken's idea that limbs are "liberated ribs," taking them as "diverging appendages" of certain ribs (*i.e.* of certain hæmal arches), and as "serially homologous" with the "oblique processes" that exist, *e.g.*, in birds. Thus the fore limb, in this view, is "an appendage" of the scapular arch, which is the hæmal arch of the hindmost cranial vertebra ("epencephalic"); and therefore an integral component of the archetypal endoskeleton. Wyman, on the contrary, does not consider limbs to be dependencies of the osseous framework from which they hang suspended—"their connection with the vertebral column through the scapular and pelvic arches is only secondary, as is that of the teeth with the jaws," he says; but as belonging to the category of tegumentary organs, as much so as the median fins of fishes. He continues: "The fore and hind limbs . . are outgrowths of the tegumentary cells, and for a time the cells undergo no differentiation into bones or other tissues. . . The bones do not, therefore, force the integuments out by their protrusion, but the integuments themselves have already grown out and the limb is formed, before the bones are developed" (*ibid.* p. 264). This is a view derived from embryological evidence afforded by observed *facts;* the former rests upon the theory of the vertebrate archetype: and embryology gives the more weighty and reliable data in the case. But whichever view be adopted for the limbs from heads of the humerus and femur outwards, the idea that scapular and pelvic are hæmal arches, and so parts of the endoskeleton, is not necessarily impugned. I think that Owen's remark to this effect has body: "Say that the appendage in Lepidosiren [*i. e.*, the pectoral limb—a mere filament] is a dermal development, and that the *humerus, radius*, &c., in its higher homologues, are skin-bones, and not parts of the endo-skeleton; it does not follow that the scapular arch . . is, also, a part of the dermo-skeleton." (*Comp. Anat. and Phys. Vert.*, III, p. 164.) So, if I am really called upon, in treating of muscles of the "limbs," to account for those that connect scapular and pelvic arches to the trunk, even the proven supposition that limbs are tegumentary outgrowths, and their bones therefore dermo-not endoskeletal, would be no obstacle in the way of the disposal of these muscles that I purpose to make.

and function, as we have seen, are no guides; though these seem to have been mainly relied on by some in this connection. In mammals, the bones occur under highly specialized conditions; and this is perhaps more particularly the case in man. Even articulation with the leg-bones may mislead! for in the mammalian foot, this is made by the astragalus alone; while in the reptilian, two or three bones may hinge upon tibia and fibula. Encountering these, and other difficulties that could be adduced, we can only rely, as so often already, upon position. There appears to be no sound alternative to regarding the carpal and tarsal bones as archetypically represented each by two rows of pieces of indeterminate shape, which are to be identified according to position. That is, the innner bone of the first tarsal row corresponds to the inner bone of the first carpal row, etc., (remembering that the forearm is supine, so that scaphoid is outside, pisiform inside, etc.).

This view, which will be followed, is Wyman's. But a question arises regarding the pisiform. Owen regards the os calcis as in itself repeating the cuneiform and pisiform together: mainly, it would seem, from teleological considerations; since the tuberosity of the os calcis (which=pisiform *sec.* Owen) and the pisiform both give insertion to what Owen regards as homologous muscles: viz., "flexor" carpi ulnaris and solæo-gastrocnemius. Wyman, in dissenting, shows that development of the calcaneum * does not bear out Owen's assumption that this bone is two in one; and is inclined to Cruveilhier's opinion, that the pisiform is a sesamoid. But he has just said (p. 268), that a sesamoid is "always detached;" whereas, the human pisiform is articulated with the cuneiform. The matter may be still open.

The five metatarsals clearly represent the same number of metacarpals; yet not in the order usually recognized, except in the case of the middle one (third); but inversely. For in the supine arm, the "first" metacarpal is on the outside, and the "fifth" metatarsal is therefore its correlative. So, also, the first metatarsal=the fifth metacarpal, &c. It may be observed in this connection, that when digits decrease in number, as in the transition from the unguiculate to the ungulate extremity, it is always the lateral ones that are successively removed: the third finger or toe is the only constant one. Its metacarpal or metatarsal is the one left, after the others have become functionless, or have disappeared.

The phalanges that are borne upon corresponding meta-carpals and -tarsals must be similarly correspondent. This proposition brings up again the difficulty before mentioned. Nothing is more certain than that thumb and great toe are *teleological* correlatives. They are on the same side of the limbs in the prone (*i. e.* teleological) position of the forearm; both are largest of the digits; both divaricate from the parallelism that the other digits preserve; both have most independent movement; and especially, both are bi- instead of tri-articulated, while the other digits have three joints. But it must be remembered that the usual position of the thumb has been proven to be morphologically false; while the size, shape, and function are certainly not infallible criteria, and therefore not decisive arguments in this connection. We have here an instance of extreme specialization; of teleological modification so profound as even to change the number of segments. In man, that is; but in some animals a "thumb" is no more a thumb in respect of any function it has, than a little finger is; and the same may be said for any of the thumb's apparent peculiarities. In idea, the several digits of either extremity are identical in size, shape, position, and construction; differentiation in either of these respects is a subsequent adaptation. For some reason unknown, it is best for mammals, that the *inner* one of the terminal segments in either limb (in the customary prone position of the forearm) should differ from its fellows, in the points above mentioned; whence occurs the physical resemblance, carried even to number of internodes, of the thumb and great toe. Yet outer digits must be regarded as antitypical of outer digits, and inner of inner. The thumb must be held to be correlated with the little toe; the great toe with the little finger; and other digits in the sequence indicated by corresponding metacarpals and metatarsals (index with "fourth" toe, etc.).

The foregoing appear to be the principal considerations that need be here presented in preparation for the discussion of the muscles that will be begun in our next. Reference to Prof. Wyman's paper will show even more clearly than our frequent citations may have indicated, how closely we have trodden in that anatomist's footsteps in drawing osseous correspondences—not blindly, however, as may be apparent; but unable not to see the validity of arguments adduced, and appreciate the reasonableness of views advanced. The following identifications of special bones, which have been adopted for this essay, are his, queried in two instances:—

THE CORRESPONDING BONES OF THE LIMBS.

Fore.	*Hind.*
Scapula.	Ilium.
Coracoid.*	Pubis.
Clavicle.*	Ischium.
Humerus.	Femur.
Ulna.	Tibia.
Radius.	Fibula.
Pisiform.	——?
Cuneiform.	Scaphoid.
Semilunar.	Calcaneum.
Scaphoid.	Astragalus.
Unciform.	Entosphenoid.†
Magnum.	Mesosphenoid.†
Trapezoid.	Ectosphenoid.†
Trapezium.	Cuboid.
Metacarpals.	Metatarsals.‡
Phalanges.	Phalanges.‡
(Pollex.	(Digitus minimus.
Digitus minimus.)	Hallux.)

REMOVING SUBSTANCES FROM THE EAR.—*The Dental Office and Laboratory* recommends the following method for this purpose:—Warm a little adhesive plaster of the best quality, and place the end of a probe in it, so that there will be a pretty large collection of the plaster, of a globular shape, about the end of it. When it is cool, place the patient in a proper position, again warm the plaster and introduce it to the substance, to which it will adhere. Poising the probe upon the fingers until the plaster is cool, make gentle traction until the body is brought out. The operation is seldom attended with pain.

* "In its mode of ossification, except in the development of a thin scale on the end of its tuberosity, it follows that of the other tarsal bones, viz., from a single centre." (*l.c.*, p. 275.)

* Should these change places in the table?

† There is need of a single word for each of these bones. Owen's are hybrids ("entocuneiform," etc.). The above will not conflict with cranial elements.

‡ Each to the other in reversed direction from that in which they are usually numbered.

RADICAL CURE OF "INGROWING NAIL."

By C. W. TRUEHEART, M.D.,

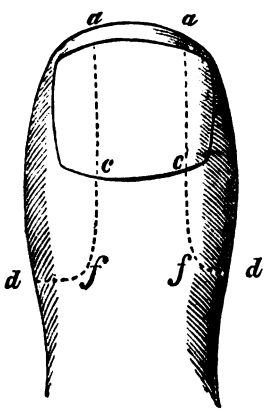
OF GALVESTON, TEXAS.

The operation advised by many of the text-books on surgery for the cure of this intractable and exquisitely painful and troublesome affection—that by slitting the nail through longitudinally, and then tearing away the whole or the lateral offending portions—is, I believe, notoriously ineffectual. During the weeks, or even months, that elapse ere the formation of the new nail, the patient is greatly incommoded in wearing a shoe or walking, by the extreme sensitiveness of the unprotected toe; and the new nail is generally as faulty in its growth as the one removed.

The plan of treatment by scraping the centre of the nail down to the quick (or cutting out a V-shaped piece), and then elevating the edges of the nail by pushing lint under; and that by drawing the impinging soft parts away from the edges of the nail, by means of adhesive strips, are well suited for the relief of the less aggravated of that class of cases due to an encroachment and excessive pressure of the soft parts upon the nail, but are quite inadequate for the cure of the more severe cases, especially where there is an abnormal width of nail, congenital or acquired.

A little method of operation which I have resorted to with most satisfactory results in six out of eight very severe cases in which it was made, and which, though it has doubtless suggested itself to, and perhaps been done by others, I fail to find mentioned in any of a considerable number of surgical works and periodical literature consulted, may perhaps prove of interest and value to the profession. It consists in the removal of the lateral offending portions of the nail, and the *thorough* extirpation of the matrix pertaining thereto; the central half or two-thirds of the nail being preserved intact, to serve its function of protecting the toe.

The patient should be anæsthetized. An incision, *c f d*, is made on one or both sides of the toe (as the case may demand), extending back six or eight lines towards the foot, care being taken to avoid opening the adjacent joint of the toe. A thin flap, *c f d*, of integument, including as little as possible of the matrix, is dissected up. The sharp-pointed blade of a straight scissors is thrust under the nail, cutting it through from *a* to *c*; and the strip of nail thus detached, with the tissue beneath and at its root, *carefully* and *thoroughly* dissected out, down to the very periosteum, so as to include all the matrix concerned in the development of that portion of nail.



The flaps should be brought together by adhesive strips. Any excess of granulation present having been pared off, the integument on the lateral aspects of the toe should be drawn over to the newly established edge of the nail, so as to cover the wound surface made by the excision of the nail, and held in place by adhesive strips. To facilitate this, it will in some cases be advisable to dissect up the integument on the side of the toe for a few lines.

Where much inflammation of the parts exists, it is decidedly best to reduce it before operating; and this is most effectually and quickly attained, and with least loss of time to the patient in the end, by a few days' rest in the recumbent position, elevation of the foot, with the use of cold lotions, etc.

In the cases referred to above, the patients were able to walk about and wear a loose shoe with comfort in six to ten days. The two cases of failure were due to an incomplete extirpation of the matrix.

VIENNA, March 1, 1870.

MEDULLARY CANCER OF THE SPLEEN.

DISEASE OF THE SPLEEN AS A CAUSE OF INTERMITTENT CHILLS.

By PAUL R. BROWN, M.D.,

LENOX, MASS.

JANUARY 1st, 1869, we were called to see Wm. Fields, a colored man, 60 years old. Inquiring into the previous history of the case, we ascertained that about the 1st of April, 1868, he was taken ill with a disease which the attending physician called intermittent fever. He presented at that time every symptom of this disease. The ague was tertian in its character. The chill was well marked, and followed by high fever. During the febrile excitement he was sometimes delirious. After the fever came the sweating stage, accompanied by great depression. For a few weeks previous to this attack he had an "uneasy feeling" constantly in the splenic region. At that time he was attended by Dr. Rising, of New Marlboro, Mass. The doctor prefaced his treatment by mercurials, and followed it up with large doses of quinine. This treatment, to some extent, abated the periodicity of the attacks, as the patient would go for a week or ten days without a paroxysm. We found the patient with similar symptoms to those above mentioned. The ague had gone back to the tertian form. He was somewhat emaciated; countenance, as far as we could judge, cachectic; appetite good; strength fair; pulse 104. We did not examine the case very thoroughly at our first visit, and diagnosed it as intermittent fever. We gave him a mixed cathartic followed by large doses of quinine. At the end of two weeks the intermission was four days. We then gave him Fowler's solution, with no apparent effect. On the 5th of February, 1869, the patient complained of pain and tenderness in the splenic region. We continued the quinine two weeks longer with no apparent effect. We then began to suspect that we had made a false diagnosis, and examined the case thoroughly. Auscultating the lungs, we found them healthy, and also the heart's action normal. The stomach we judged to be in a comparatively healthy state, as his digestion and appetite seemed to be good. We examined his urine microscopically and found nothing abnormal. S. P. 1015. We then diagnosed the case by exclusion to be malignant disease of the spleen, although the diagnosis could not be positive. The patient gradually lost flesh, strength, and appetite. The intermittent fever continued unabated. The patient became very much emaciated towards the end of life. He continually complained of pain in the region of the spleen. He finally died of exhaustion on the 10th of July, 1869. During the last two or three months we simply used palliative treatment, such as anodynes and tonics. We were allowed to perform a partial post-mortem, after a great deal of opposition. We made it one day after death. Cadaver very much emaciated. Rigor mortis, well marked. The

lungs were healthy, save a slight pleuritic adhesion. Heart remarkably free from disease. Stomach and liver healthy, although very much emaciated. There was a very small amount of fluid in the abdominal cavity. The omenta were excessively thin. The intestines and bladder seemed to be sound. There was some slight congestion of the right kidney. The spleen was the grand centre of disease in the present case. This organ was a third larger than it should have been, was quite white in color, and faintly streaked with pink lines. It presented a peculiar nodulated appearance, and was very firm and elastic to the touch. Upon making a section, we found it to be a perfect specimen of "firm medullary cancer," as defined by Paget.

The whole organ presented the following appearances to the unaided eye: Its color was a pinkish white, its structure homogeneous, and tearing apart with some slight degree of force. Upon pressure, a thick, creamy fluid exuded. The whole substance seemed to present the same characteristics. Dr. Frank K. Paddock, of Pittsfield, Mass., formerly Professor in the Berkshire Medical College, and myself examined a portion of the organ microscopically. We found it to consist of masses of nucleated cells, imbedded in a stroma, which was fibrous in its appearance. The Malpighian corpuscles were obliterated. Free nuclei, more nearly resembling spermatozoa, were seen floating about in the cancer-juice. The history of the case, the post-mortem and microscopic examinations, warrant us in saying that our diagnosis of malignant disease of the spleen was correct.

The peculiar point in the case was the well-marked paroxysms of intermittent fever, occurring in a patient living in a region free from all malarial influences, and who, moreover, had always resided in a hilly and mountainous country, free from even a suspicion of malarial disease. It has seemed to us that probably in cases of intermittent fever, when the spleen is sensibly affected, the disease of the spleen is the cause of the fever, and not the contrary, as has been hitherto taught. The delicate capillary plexus surrounding the Malpighian corpuscle is undoubtedly the source whence they derive their contents. The splenic veins, so intimately connected with these corpuscles, at certain times become the carriers of their contents into the circulation, to a greater or less extent. The immense size of the arteries and veins in this so-called "ductless gland," proves that this organ holds an important place in the human system. It may not be an incredible thing, that any excessive derangement of the functions of this organ may produce intermittent symptoms in the human economy; that intermittent fever, instead of being the *cause* of splenic enlargement and disease, is simply a sequence. To have intermittent fever, it has hitherto been supposed that we must have the blood contaminated by miasmata which have their habitat in certain regions. This undoubtedly to a certain extent is true, but does this contamination *alone* produce the specific disease called intermittent fever? We think not. We claim that derangement of the functions or textural changes of the spleen are the invariable causes of intermittent fever, whether the derangement of functions or structural changes are produced by miasmata present in the atmosphere, food, or water; by the fumes of melting zinc, or by the infiltration of cancerous matter into this organ. Miasmata entering the circulation may be carried along until they enter the splenic arteries; then passing through the capillary plexus surrounding the Malpighian corpuscle, by endosmosis become a part of its contents. By some zymotic process, these may increase to such an extent that the nutrition of the corpuscle becomes defective, and the whole spleen is disordered in its functions. The splenic veins convey from this ill nourished corpuscle more or less of this materies morbi into the circulation, which thus becomes contaminated, and intermittent fever is the result. The intermittent fever, so well marked in our patient, who died of medullary cancer of the spleen, was undoubtedly caused by the infiltration of cancerous matter into this organ from the blood, or, from some cause unknown, the nutrition of the organ became defective. Malnutrition of any organ must be the cause of functional derangement and pathological changes in its tissues, however that malnutrition may have been induced. Finding a soil well fitted to nourish its malignancy, the cancerous process went on until the functions of the organ were destroyed. They could not be replaced, and death was the result. The gradual derangement of the functions of this organ produced the intermittent fever, which increased in violence to the end. In this case, did the intermittent fever produce the cancer of the spleen, or *vice versâ*? We think it did not. A patient free from miasmatic influence of every kind is stricken down by intermittent fever, and finally dies of cancer of the spleen. What produced the fever, if not the malnutrition and resulting disorder of the function of this organ? We cannot explain this case otherwise, and from analogy and the general history of intermittent fever we assert that malnutrition of the spleen is the exciting cause of this disease. We hope this case may turn the attention of the profession more directly to this subject, and that greater light may be thrown upon the functions and diseases of the spleen.

Progress of Medical Science.

Cardiac Complication of Renal Disease.—Dr. Murchison calls attention to two cases of cardiac disease under treatment, in both of which the aortic valves were affected. He expressed the belief, founded on observation, that in cardiac disease following morbid changes of the kidneys, the aortic valves were the first affected, and oftentimes were the only ones involved, while, on the other hand, acute rheumatism was most often followed by mitral diseaseoas the initial affection.—*Richmond and Louisville Med. Journal.*

Cases Treated by Hydrate of Chloral.—Surgeon A. M. Adams reprints in the *Lancet* two cases relieved by hydrate of chloral. A delicate female was delivered of her first child, and four days afterwards was attacked with acute, ungovernable, puerperal mania. Bromide of potassium, opium in large dose, and chloroform were given without benefit. Forty grains of chloral were given several hours after the discontinuance of the other remedies. At this time the pulse was scarcely perceptible, and the extremities cold. In five minutes after taking the chloral she became calm and conscious. Soon after drowsiness was followed by sleep, which later was at first rather profound, but soon became natural and light. The attacks of mania recurred, and each time the chloral, in from forty to sixty grain doses, was followed by a natural sleep lasting from six to eight hours.

The other case was of a man laboring under a severe attack of asthma. Previously chloroform had been frequently employed to cut short the attacks, but with only temporary relief. Thirty grains of chloral were given, and in less than twenty minutes calm sleep was induced which lasted for eight hours.

Improved Formula for Chalk Mixture.—To obviate unpleasant and dangerous souring of chalk mixture as commonly prepared, glycerine may be substituted for the sugar, according to the following formula:—℞ Cretæ Preparat., Glycerini, āā ʒ ss.; Pur. G. Acaciæ, ʒ ij.; Aq. Cinnam., Aquæ, āā ʒ iv. Rub well together until thoroughly mixed. This mixture will keep during a whole summer. The glycerine exerts a positively soothing effect upon the bowels, as well as in some degree arresting fermentation.—*Boston Journal of Chemistry.*

Preservation of Anatomical Specimens.—The process of M. Von Vetter:—Add to seven parts of glycerine at 22° one part of raw brown sugar and half a part of nitre, till there is a slight deposit at the bottom of the vessel. The portion to be preserved is then plunged in dried or not dried, and left in the mixture for a time proportioned to its dimensions. A hand, for example, should remain eight days in the liquid; when it is taken out it is stiff as a piece of wood, but if it is suspended in a dry and warm place the muscles and articulations recover their suppleness.—*Detroit Review of Medicine and Surgery.*

Chloral.—*The Gazette des Hôpitaux* reports a case in which chloral was exhibited to the extent of perfect anæsthesia, under which amputation of the leg was performed by M. Noir. After the operation it was long before the patient recovered his sensibility, and the symptoms were most alarming—coma succeeded by delirium, vomiting, and prostration.

Death from Injecting Perchloride of Iron in Sanguineous Tumors.—A child, ten weeks old, having three sanguineous tumors respectively on the left cheek, left leg, and right lumbar region, was brought to Prof. Santesson, of Stockholm. Having decided to employ subcutaneous injections, he proceeded to use a liquid composed of ferri perchloridum six parts and alcohol one part. The injection was made with a glass syringe containing eight or ten drops of the mixture. By the first injection half of the contents was used, the needle withdrawn, and reintroduced and directed deeper into the tumor. Before the second injection was completed the operator was obliged to cease on account of threatening symptoms, and death of the child took place in about two hours. The autopsy revealed the following symptoms:—Tumor much lessened in size, its tissue firm and solid from coagulation of blood. The surrounding veins were empty. The external and internal jugulars contained no clots in the superior portion, but as they approached the chest the contained blood was generally clotted. The clots became more and more firm in the subclavian, the superior vena cava, and in the right cavities of the heart. These were literally distended with coagulated blood. The left auricle contained a small clot, the left ventricle was empty. It is probable that in introducing the tube the second time one of the veins was penetrated.—*Detroit Review of Medicine and Pharmacy.*

Excision of Joints.—In Mr. Gant's paper at the Royal Medical and Chirurgical Society of London, on April the 12th, the author defined *incurability*, as regards excision, to be "that condition of the local disease wherein the joint has become functionally useless by destruction of the articular cartilages, without the supervention of anchylosis, but while the constitution still retains the reserve power requisite for the long process of reparative union—averaging three months after removal of diseased bone." With regard to results, excision proved successful in sixteen out of twenty cases of knee, hip, and elbow. Re-excision was resorted to in two of the four cases; one knee-joint and one elbow-joint, the latter successfully; and secondary amputation was performed in three of the four cases, all of which did well. No death occurred in any of the operations. Mr. Wood said that in King's College Hospital it is now the practice to employ a single straight incision across the front of the joint, level with the top of the tibia. The greatest modern improvement in the practice of excision was, Mr. Wood observed, the method of gouging away the diseased bone, and leaving the periosteum and the attachments of muscles undisturbed. Mr. Holmes does not agree with sub-periosteal resection.—*Medical Press and Circular.*

Substitute for Quinine.—An Italian correspondent informs us that Signor Pavia has extracted from the leaves and roots of the box (*Buxus sempervirens*) an alkaloid, which he calls buxina, that has been found most efficacious in a large number of cases treated by seven different Italian physicians. It is in the severe intermittent fevers that prevail in the marshy parts of Italy that the new drug has been put to the test. Out of six hundred and eight cases submitted to the new alkaloid five hundred and thirty-five were completely cured—nearly eighty per cent.—enough to permit the claim for it as a specific being entertained.

In a single dose of fifteen grains *sulphate of buxine* generally prevents the next paroxysm from appearing. In a few cases it only diminishes the intensity of the paroxysm. It is only in rare cases that a second dose has had to be given. The drug seems effectual in every type of disease attributed to marsh miasms.—*Medical Press and Circular.*

Sponge Tents.—An expeditious and simple mode of preparing tents, tampons, &c., of compressed sponge, is the following:—Moisten the sponge thoroughly, and then having pressed out the excess of water, mould it to the required form, either with the fingers or packing in a suitable mould, and immerse immediately in strong alcohol. In a few minutes the sponge sets or hardens so as to retain its shape permanently on removal of pressure. As soon as the alcohol has evaporated it is ready for use. A few drops of water restore it to its former shape.—*Detroit Review of Medicine and Pharmacy.*

Arseniate of Antimony for Asthma.—We are informed by one of our foreign correspondents that in Spain the use of arsenic is more common than with us, and that arseniate of antimony is becoming extensively used in the Peninsula as a remedy for obstinate asthma. It may be advantageously given in pills, combined with muriate of morphia. The dose to commence with is two milligrammes, and this may be cautiously repeated up to five doses a day. The drug is also administered by inhalation, cigarettes being smoked which have been prepared for the purpose. The smoker should keep the smoke in his mouth as long as possible. The treatment should be sometimes suspended for a time, and in recommencing it, it is necessary to begin with the smallest dose, and proceed as cautiously as on the first occasion of employing it. It is believed by the profession in Spain that arsenic not only acts through the nervous system, but has a special effect on the walls of the pulmonary air-cells, restoring to them their elasticity.—*Medical Press and Circular.*

Dr. Dalby on Perforations of the Membrana Tympani.—Dr. Dalby says it may be stated generally that the existence of perforation is not the cause of deafness, but that such is to be looked for in the middle ear. There are slight thickenings of the lining mem-

brane of the tympanum, or the membranes covering the ossicles, etc., or caries of the little bones and labyrinth. When the tympanum becomes congested, the swelling of its mucous lining soon closes the Eustachian tube; and its secretions having no other exit than through the membrane, perforations are continually kept open, or, after closing, are reopened by the pressure of discharge. The principle is to cleanse the ear well, first with an ordinary syringe, and then a syringe is used with a nozzle fitting the meatus, and defended by a piece of india-rubber tubing. In this way alkaline solutions are sent along the tympanum and Eustachian tube, passing out through the nose. Afterwards astringent solutions are injected, such as five grains of sulphate of zinc to the ounce.—*Med. Press and Circular.*

INSANITY CAUSED BY SYPHILIS.—Prof. Joseph Jones, M.D., New Orleans, La. (*The N. O. Journal of Medicine*), corroborates the assertions of those investigators who maintain that the brain may be directly affected by syphilis; the nervous substance being the seat of syphilitic gummy deposit followed by softening; and cases have been recorded in which white and red softening of the cerebral substance have been caused by syphilis. In the neuralgic affections, paralysis, epilepsy, and dementia, following the appearance of the constitutional effects of syphilis, good results and even effectual cures may be obtained by the judicious use of the bi-chloride and bin-iodide of mercury and the iodide of potassium. One-sixteenth of a grain of the bi-chloride or of the bin-iodide of mercury has been administered in his cases in Charity Hospital, N. O., in combination with iodide of potassium three times daily. In the severest cases of nervous derangement the iodide of potassium has been used freely, in doses varying from one to two scruples three times daily.

CASES OF NERVE-IRRITATION CURED BY SURGICAL OPERATIONS.—John H. Packard, M.D., of Philadelphia (*Am. Jour. Med. Sciences*), narrates three cases of nerve-irritation; in all the operations resorted to gave complete relief. In one of these cases there was irritation of the terminal filaments of the median nerve at the side of the last phalanx of the thumb; in the second, the trunk of the infra-orbital was the seat of the trouble; in the third, the cerebrum itself was pressed upon. The *third* case was that of a boy, æt. 14, who had a very large portion of the scalp torn off the top of the head by the discharge of a shotgun, together with a patch of periosteum about two inches square; there was also a fissure of the bone, stellate, two of the cracks branching out an inch or more, forming an acute angle with one another. On the sixth day, finding that there was a spot at the apex of the angle between the two fissures, pressure upon which induced convulsions, he applied the crown of a trephine at that point, and removed a button of bone. This case was, in his opinion, remarkable from the extreme severity of the lesion, the sudden onset on the sixth day of very grave symptoms, and their speedy disappearance after an operation which, although indicated and even demanded, seemed scarcely adequate to the production of benefit so immediate, so complete, and so permanent.

FRACTURE OF THE CLAVICLE TREATED BY POSITION ONLY.—Dr. M. S. Jones, of St. Louis, Mo. (*The Med. Archives*), relates a case of fracture of the outer third of the left clavicle successfully treated by position only. The treatment consisted in confining the patient on his back, with a pillow between the scapulæ, no appliances being made other than an ordinary sling, which held the hand in position across the chest. This arrangement was found to secure good position across the chest.

THE CAUSE OF DIPHTHERIA.—Dr. Spinzig, of St. Louis, Mo. (*The Med. Archives*), does not coincide with a writer in *Virchow's Archives* in the belief that the cause of this affection is a fungus which destroys the mucous membrane. The fungus he imagines a consequence or concomitant, rather than a cause of the disease.

OBSTINATE GLANDULAR ENLARGEMENT.—Jos. Adolphus, M.D., Des Moines, Iowa (*Chicago Med. Times*), recommends this formula in a case of obstinate glandular enlargement: ℞. Ipecac, ʒ ss.; Podophyllin, gr. v.; Quinine, gr. xv. Make into thirty pills, one three times daily.

TINCTURE OF CANTHARIDES IN CEREBRO-SPINAL MENINGITIS.—Dr. Thos. C. Murphy, Grand Valley, Ill. (*Chicago Med. Journal*), believes that tinct. cantharides is of great value in this disease, from its stimulant effects, in cases where there is great depression of the nervous system. He states that the credit of reviving this remedy is due to Prof. J. Adams Allen, of Rush Medical College.

A RARE CASE OF DISLOCATION OF HUMERUS.—T. A. Montgomery, Mankato, Minn. (*Chicago Med. Journal*), publishes the following case of fracture: While a man, æt. 50, was carrying wood up a flight of stairs, he fell backwards, striking his weight on his right hand and arm, which he had thrown behind him to break his fall. On examination, the injured shoulder appeared somewhat higher than that of the opposite side. There seemed to be an unnatural prominence of the acromion, with a hollow under it, at the back of the joint; also an undue fulness in front. The diagnosis was partial dislocation of the humerus, upwards and forwards; the head of the bone lying against the coracoid process. He has failed to find more than two instances of this dislocation, either in the text-books, or in any journal of medical or surgical science.

ON MASKING THE NAUSEOUS TASTE OF EPSOM SALT.—Isaac W. Smith, of Phila. (*Proceedings Am. Pharmaceutical Asso.*, 1869), after giving the subject considerable attention, obtains the most satisfactory result by combining Epsom salt with a strong infusion of liquorice root, and evaporating to dryness. The following is his process: Take of liquorice root, contused (deprived of outer bark), four troy ounces; boiling water, two pints, or sufficient.

Mix and allow to stand, with occasional stirring, until cold; then press through muslin, adding more water if necessary, until the residue no longer tastes, then filter; to the filtrate add Epsom salt, four troy ounces, and evaporate to dryness over a water-bath. Each ounce of the compound represents about one ounce of the crystallized salt.

CINCHO-QUININE CONDEMNED.—W. T. Wenzell, a chemist of California (*Pacific Med. and Surg. Journal*), lately read a paper on Cincho-Quinine before the California Pharmaceutical Society, and arrived at the following conclusions: This agent, although having the advantage of being nearly tasteless, does not contain quinia, quinidia, and cinchonidia, and therefore does not represent the whole of the active principles of the bark. It cannot exert the full effects of sulphate of quinia in the same dose, inasmuch as the stated dose of "Cincho-Quinine" is from five to thirty grains.

A SIMPLE WAY TO OBTAIN OZONE.—Behind the short flame of a Bunsen burner a large beaker is placed with

the opening to a flame, and a current of air, by means of a glass or any other tube, is blown through the flame right into the mouth of the glass. This, after a few seconds, is covered with a glass plate, on removing which the characteristic odor of ozone will be at once perceptible. Starch and guaiac paper will give a decisive reaction.—*Drug. Circ. and Chem. Gazette.*

COLORLESS TINCTURE OF IODINE.—A correspondent of *The Druggists' Circular and Chemical Gazette* sends a formula for a colorless tincture of iodine, which is used with a great deal of success. Take:—

Tinct. iodine ..... ʒ j.,
Water of ammonia, concent..... ʒ ij.,
Carbolic acid—"Calvert's,".....gtt. viij.

LORING'S OPHTHALMOSCOPE.—Edward G. Loring, M.D., Surgeon to the Manhattan Eye and Ear Hospital, New York (*Am. Jour. Med. Sciences*), publishes an interesting paper on "Determination of the Optical Condition of the Eye by the Ophthalmoscope," with cuts of his modification of the ophthalmoscope. In this instrument, detachable cylinders are substituted for the fixed Rekoss disk, now common to a number of ophthalmoscopes. But three cylinders are generally employed, though these might be multiplied indefinitely were there any occasion for so doing.

Those who are desirous of obtaining this instrument can address the maker, H. W. Hunter, Optician, 1132 Broadway, New York City.

PUERPERAL CONVULSIONS FROM "NEPHRITIS" SUCCESSFULLY TREATED BY MORPHIA HYPODERMICALLY.—Dr. R. B. Bonticou, Troy, N. Y. (*N. Y. Medical Journal*), recently administered morphia hypodermically to a woman, 35 years of age, with puerperal convulsions, with success.

He says in concluding, this is the second case within a year in which he has used morphine, with satisfactory results, in convulsions occurring before labor from nephritis, in both instances inducing labor with the douche, and saving both mother and child. Two other cases came under his observation lately, where convulsions, occurring during and after labor, were promptly controlled by the use of morphine hypodermically.

THREE CASES TREATED BY HYPODERMIC MEDICATION.—F. D. Lente, M.D., Cold Spring, N. Y. (*N. Y. Medical Journal*), writes to Professor George T. Elliot, M.D., and enumerates three cases relieved by *hypodermic medication* (morphia). The *first* was the terrible headache succeeding the chill in intermittent fever; the *second*, a case related by Professor Alonzo Clark, M.D., before the New York Academy of Medicine, May 9, 1866, when fifteen drops of Magendie's solution were injected into a lady patient, with a cold, moist surface, vomiting, and copious dejections,—"restless, nearly pulseless, and apparently dying,"—nothing else could be borne, and after the lapse of fifteen minutes the vomiting ceased, the pulse returned, and a gentle slumber was induced, which lasted for two hours. Dr. L. remarks, What other antidote can equal this? The *last* was a case of sporadic cholera, and when visited the patient was cold, clammy, with dusky surface, cold tongue &c., &c. Three-quarters of a grain of morphine was injected, and, strange to say, another dose was not required. Professor Elliot was the first to suggest the use of the hypodermic method publicly in this country, and had the first American instrument manufactured, in August, 1857.

TO INDUCE DIURESIS IN URÆMIA OF SCARLET FEVER.—C. H. Routh, M.D., Phys. to the Samaritan Hospital (*London Med. Mirror*), in cases of renal congestion advises counter-irritation over the loins, in addition to the warm bath. He is disposed in his next case to try the effect of a foxglove leaf poultice, as, from the evidence of others who have tried it, it has been found effective in inducing diuresis. He has used extensively tr. digitalis in full doses, combined with small doses of tr. lyttae. For an adult, ʒ j. of the former to 10 or 20 of the latter, repeated at intervals of 4 hours 3 or 4 times. Dr. R. has seen these agents in this combination act so well, that he knows of no other remedies which he would sooner give in these cases.

TREATMENT OF RHEUMATISM.—M. G. de Mussy (*Paris Corr. Med. Press and Circular*), at the Therapeutical Society, gave an account of his success in the treatment of rheumatism by a combination of colchicum with bromide of potassium. This practitioner has long employed tincture of seeds of colchicum in articular rheumatism, and it generally removes the fever in a few days. When he first added to this the bromide, he found not only relief to the febrile symptoms, but a calm sleep, never disturbed by the dreams that opiates often produce. He gives the tincture in doses of 15 to 20 minims—occasionally even to 30—but never exceeding that last dose, so as to avoid intestinal irritation.

In sub-acute cases M. de Mussy employs, in addition, iodide of potassium or quinine, according to the constitution of the patient, and afterwards a course of arsenical baths.

ETIOLOGY OF EPIDEMIC DISEASES.—W. P. Thornton, M.D., Cincinnati, Ohio (*The Cin. Lancet and Observer*), in an article on "Etiology of Epidemic Diseases," believes that the so-called period of incubation, common to most contagious diseases, is but the period required for a sufficient cell-growth, after its implantation in the new soil, to produce disease. Therapeutical experience also confirms this theory. No intelligent practitioner believes it is in the power of man to cut short scarlatina, small-pox, measles, typhoid fever, or Asiatic cholera. All we expect to accomplish is, by judicious hygienical and therapeutical means, to obviate those *secondary* local affections which may prove fatal to the lives of our patients; but over the essential process itself we have little control.

He therefore concludes that all epidemic, contagious, and infectious diseases are propagated by cellular implantation into the circulation or on the surface of the human body, where, after a period of time requisite for multiplication and growth, they produce disease.

This is different from the so-called animalcular theory, inasmuch as that only *a cell*, be that animal or vegetable, is necessary to produce the morbid process which we call disease.

DOES ALCOHOL WARM THE BODY?—Prof. Bing (*The Practitioner*) has come to the following conclusions on this subject: 1st. That alcohol lowers the heat of the body, and that it preserves life in febrile affections, where the temperature rises very high, by its antipyretic properties. 2d. That extreme depression of the vital powers in febrile cases is most frequently dependent upon the temperature of the blood, and passes off when it falls. 3d. That the number and strength of the contractions of the heart always rise under the use of alcohol. Whenever, therefore, such an effect would be injurious, alcohol would be an improper remedy. 4th. That in all probability alcohol lowers the temperature by the retarding influence it exerts over the oxidizing process.

OSBORN'S NEURALGIC PILL.—T. C. Osborn, M.D., Greensboro, Ala., writes to the editors of the *New Or-*

leans Journal of Medicine, that the subjoined combination is very effectual in cases of neuralgia: ℞. Zinci cyanuretum. gr. vj.; quiniæ sulphas, gr. ix.; morphiæ sulphas, gr. iss.; ext. belladonnæ, gr. iij. Ft. pilulæ No. vj. S. One pill every 6 hours, until the pain is relieved.

Treatment of Spermatorrhœa from Self-Pollution.—Dr. J. Waring Curran, Osman House, Sutton, Wilts. (*London Med. Mirror*), finds it is absolutely necessary to make a sore in the penis. Most of these patients have a long prepuce, and he selects the mucous surface of it for the production of a small sore with an irritant caustic. The evil habit is seriously broken in upon thereby, and masturbation for a time successfully baffled. Bromide of potassium is given in full doses internally, and the oxide of zinc in two grain doses twice daily, with a camphor and conium pill at bedtime.

Heat and cold are applied alternately to the lower part of the spine, with a dash of cold water night and morning to the genitals. Dr. W. enjoins a generous regimen, avoiding stimulating beverages, and recommends active habits and open air exercise; the patient is advised to retire for the night greatly fatigued, to sleep upon a hard bed with light coverings, and to arise in good time in the morning.

Bismuth Sub-Nitrate in Aiding the Digestion of Cod Liver Oil.—J. Adolphus, M.D., Des Moines, Iowa (*Chicago Medical Times*), finds that stomachs which defiantly resist every effort made to coax them to retain cod-liver oil, or digest it, are made to yield by administering sub-nitrate of bismuth, in 10 gr. doses, four times daily, in connection with the cod-liver oil.

Bismuth has not the power of pepsin. Its action is on the nutrition of the mucus as nervous tonics of the stomach, allaying irritation, quieting hyperæsthesis, relieving engorgements through the former operation, and allowing the stomach to secrete a more healthy fluid and retain its contents with greater ease and quiet. Bismuth he believes is a great aid to the digestion of cod-liver oil in this way. Many cases may be overcome by pursuing this simple course. As to the cod-liver oil, Dr. A. finds Parker's the best.

Treatment of Malignant Pustule.—Dr. Caspar, of Stassfurth, asserts that he has treated several hundred cases of malignant pustule successfully by strong solution of ammonia, and that all the patients recovered except one—a pregnant woman, whose stomach rejected everything. The dose for children was one, two, or three drops, and for adults four drops, given every hour, day and night, with sweetened water. This treatment must be continued until the inflammation ceases around the pustule.—*N. Y. Med. Journal.*

Tartar-Emetic Treatment of Nævus.—Mr. Bateman, in the *Lancet*, calls attention to the tartar-emetic plaster for the cure of this class of tumors, after having employed it successfully for fifteen years. The formula is ant. of pot. tart., 1 part, ung. resinæ, 2 parts; to be spread on thin leather or linen. When the skin is not easily blistered, or the nævus is thick, equal parts of the two ingredients must be used. The pustulation must be repeated again and again until the tumor sloughs. By this means one case—a child with twenty-five nævi on various parts of the head, trunk, and extremities—was cured.—*Richmond and Louisville Medical Journal.*

Sulphite of Soda in Erysipelas.—Dr. George Kelmer bears the following testimony:—A patient, aged 30, was attacked with erysipelas, which involved the right hand and arm, extending nearly to the shoulder. They were swollen, tense, and hard, with one or two patches which assumed a decidedly gangrenous character; pulse 120; respiration hurried; skin hot and dry; tonsils dark red, swollen; urine scanty and high colored. Patient was ordered three grains of quinine every three hours, with a teaspoonful of the following mixture intermediated:—℞. Sodæ Sulphitis ʒ j., ext. glycyrrhiz. ʒ i.; aq. font. ℥ ij. As a local application, an ounce of the sulphite dissolved in a quart of water and applied on cotton over which rubber cloth was applied. Beef-tea freely, with good ventilation. At the end of one day there was a marked improvement, and the patient was soon convalescent.—*Western Journal of Medicine.*

Repeated Bilateral Lithotomy in a Child.—Dr. Louis Bauer reports the history (*St. Louis Med. and Surgical Journal*) of a boy four years old, upon whom the bilateral operation of lithotomy was twice performed, several calculi of various sizes being removed at each operation. Symptoms of calculi being again exhibited, and fearing the consequences of a third operation and finding them composed of the triple phosphate, he used tri-weekly injections of one part of dilute nitric acid and seven parts distilled water. The fluid was kept back in the bladder for about half an hour, and afterwards the bladder was thoroughly cleansed with warm water. The acid injections producing no perceptible irritation of the bladder, the fluid was allowed to remain as long as the patient could bear it. The internal administration of nitro-muriatic acid was also resorted to. At the end of sixteen months, counting from the first operation, the patient had fully recovered, and was dismissed.

Aquapuncture.—Dr. J. T. Whitaker describes (translation from *Gaz. des Hôpitaux*) under this name a new and ingenious mode of revulsion: To a small force-pump a leaden tube is adjusted whose extremity is filiform. A slight pressure on the lever of the pump suffices for the introduction of the capillary point, and a few grammes of water are injected under the skin. A small pale elevation of the integument ensues, with an occasional drop of blood in the centre. The first pain caused by the penetration of the water is severe enough, but this soon subsides, and in 15 or 20 minutes the effusion disappears. In a case where muscular pains in the sacro-lumbar mass were accompanied by a vesical atony of chronic duration and prostatic hypertrophy, twenty-eight points of aquapuncture in the region of the pain were followed by instantaneous relief, which still remained after 40 days. Eight points of aquapuncture, in a case of rachitic pains with prostatorrhœa, produced instant relief. Fifteen aquapunctures produced a complete cessation of the abdominal pains in a case of metritis with slight cystitis.—*Cincinnati Lancet and Observer.*

A Case of Coccydynia.—Dr. W. R. Fox (*Chicago Med. Examiner*) reports the case of a lady who complained of a very severe pain in the region of the coccyx. She had been delivered of her first child after a tedious labor, and her recovery was also tedious. The coccygeal pain was very much aggravated by sitting, walking, or rising from the sitting posture. Examination revealed the lower joint of the coccyx to be motionless and tender to the touch. Pelvic organs healthy, except slight prolapsus uteri. Advising amputation of the coccyx, she consented to the operation. The two lower bones were separated from their attachments and severed at their second joint by small bone forceps. The result was perfectly satisfactory.—*Chicago Medical Examiner.*

NEURALGIA OF THE OVARIES.—Dr. J. T. Newman reports three cases of this affection, in which the symptoms were similar. For some time they had had painful menstruation, considerable fulness in the iliac regions, with great tenderness, and severe pains shooting down the inner parts of the thighs. Upon the administration of muriate of ammonia and tr. of aconite the trouble disappeared in a few days.—*Chicago Medical Examiner.*

OIL OF TURPENTINE IN COMPLICATIONS OF PERTUSSIS.—According to Bedford Brown, of Alexandria, Va. (*Am. Jour. Medical Sciences*), no other drug exerts so prompt and universal an influence over the entire secernent system of membranes, as sudorific, diuretic, expectorant, and alterative, as the oil of turpentine. These peculiar powers render its action applicable to the treatment of the grave forms of hooping-cough and its dangerous complications, such as infantile remittent or gastric fever, a continued form of irritative fever, bronchitis, hæmoptysis, convulsions, dysentery, and enteritis.

EXCISION OF THE ENTIRE SCAPULA WITH PRESERVATION OF A USEFUL ARM.—M. Schuppert, M.D., New Orleans, La. (*The N. O. Jour. of Med.*), reports the successful removal of the right scapula from a German woman, 36 years old, on account of an *Osteochondroma*, which arrested the active and passive motions of the humerus. The tumor weighed six pounds, and measured respectively 0.35 and 0.40 metre in circumference. The sutures were removed on the third day. The wound was syringed out daily with glycerine containing 10 per cent. of carbolic acid. Seventy-two days after the operation the last secreting opening had closed.

At the present date—eighteen months after the operation—there is no indication of reappearance of the disease in any part of the body. The right arm has no artificial support, and is more useful than before the operation. There is sufficient strength in the extremity to lift a weight of thirty pounds and throw it a fair distance.

MUSCULAR LABOR OF THE UTERUS IN PARTURITION.—Prof. Haughton in his investigations upon this subject has shown with conclusiveness that the expulsive force of the uterus employed in dilating the os in the first stage of labor amounted to 3·4 lbs. on the square inch; and he compared this with the conclusion arrived at by Dr. Matthews Duncan, that the membranes required a force of 3.1 lbs. on the square inch for their rupture. He pointed out that the expulsive power of the uterus was just capable of rupturing the membranes and no more; and he illustrated by this comparison the beautiful and wonderful economy of nature evidenced in the human system. He found, however, that the expulsive force capable of being voluntarily exerted by the woman was enormously greater than that of the uterus, and was equivalent to 38.6 lbs. on the square inch, and he believed that it was by this force, in the greatest measure, that the expulsion of the fœtus was effected. Thus the involuntary and voluntary force amounted to 42 lbs. to the square inch, which, calculating the fœtal head to have a diameter of 4½ inches, would represent the enormous force of 593, or about a quarter of a ton, which might be engaged in parturition.—*Med. Press and Circular.*

DYSPHAGIA TREATED BY LARGE DOSES OF ATROPINE ADMINISTERED HYPODERMICALLY.—A woman who had some months before swallowed a quantity of sulphuric acid, had dysphagia, vomiting, and pain after swallowing food. There was cicatricial contraction of the œsophagus, but the symptoms of the obstruction varied in intensity. Dr. Murchison thought the use of atropine was indicated for the relief of the spasm; the patient was very much benefited by its use. The dose administered hypodermically, was at first 1-40th of a grain, once daily. It was afterwards increased to 1-30th, and then to 1-20 gr. occasionally, once daily; finally 1-14th gr. was given twice daily, although 1-7th gr. was at last given daily. No effect on the pupil was produced.—*Richmond and Louisville Medical Journal.*

DETECTION OF CHLOROFORM AFTER DEATH.—Dr. Thomas Stevenson (*Guy's Hospital Reports*) refers to a death from inhalation of chloroform, the patient being a powerful, muscular man, who was to have the tendo-Achillis cut for deformity. The solid and fluid parts of the body were subjected to analysis, in order to detect chloroform. The process of Duroc was employed, by which the chloroform is decomposed into chlorine, hydrochloric acid, and other products; and the two first named substances are absorbed by nitrate of silver. The result showed the presence of the agent.—*Pacific Medical and Surgical Journal.*

MEASLES IN A NEW-BORN CHILD.—Dr. Isaac Smith reports to the *American Jour. Med. Sciences*, the case of an infant born while the mother was about to break out with measles. Next day both mother and child were covered with the eruption.

THE DEVELOPMENT OF THE CEREBELLUM IN THE INSANE.—Dr. Meynart has recently reported that the brain of insane persons presents a remarkable development of the cerebellum, and that, on the other hand, its excess is much more considerable in women than in men, other circumstances being equal.—*Med. Press and Circular.*

INJECTIONS OF CHLORATE OF POTASH IN GONORRHŒA.—Pascual Cardila y Sanchez recommends (St. Louis *Med. and Surg. Journal*) injections of chlorate of potash (16 grs. to the ounce) in the second stage of gonorrhœa and in gleet. The injections should be frequently repeated, and continued several days after the discharge has ceased. They are less apt to fail in the second stage of gonorrhœa than in gleet.

SULPHUROUS ACID IN SYPHILITIC ULCERATION.—Dr. Murchison has recently tested this remedy, with a favorable result, in the case of an old woman with tertiary syphilitic ulceration of the pharynx, involving deeply the posterior pillars of the fauces. Iodide of potassium with chlorate of potash was employed internally, while sulphurous acid (one part to four of water) was used locally in the form of spray. The ulceration was speedily checked, and continued to improve so long as the application was kept up. When the treatment was discontinued for a short time the ulceration recommenced.

HYPODERMIC USE OF CARBOLIC ACID IN INTERMITTENT FEVER.—On the authority of Calvert & Co., of Manchester, it is stated that carbolic acid is a valuable remedy in intermittent fever in doses of two-thirds of a grain in twenty minims of water, administered hypodermically.—*Pacific Medical and Surgical Journal.*

THE CAUSE OF THE FIRST SOUND OF THE HEART.—E. Groux, M.D., of Brooklyn, N. Y., believes that the first sound of the heart is entirely due to muscular action, the second to the closure of the semi-lunar valves of the aorta and pulmonary artery. The movements of the auricles are synchronous. With regard to the vexed point of the nature of the pulsating tumor seen in the sternal fissure, on his own person, the Dr. believes it to be the right auricle, instead of the right ventricle, as laid down by Virchow.—*Cor. Med. and Surg. Reporter.*

PHYSIOLOGY OF THE BLOOD.—In a recent paper by M. Savotti, in the *Centralblatt*, he describes a phenomenon of great interest, and hitherto unobserved—the entrance of entire pigment-cells into the channels of the capillaries and smaller veins of the web of the frog's foot through their walls. This is the converse process to that exit of white corpuscles of the blood through the walls of the blood-vessels, which has attracted much attention, and as to which the researches have been brought under the notice of our readers. M. Savotti uses a dilute solution of sulphuric acid—2 per cent. The cells contract and become aggregated around the minute vessels. Then, putting forth processes, one pierces the wall of the vessel and enters its cavity. The whole cell sometimes is slowly drawn in, and after remaining adherent for a time to the wall of the vessel, gradually moves onward with the current of blood. The observation is one of great physiological and pathological interest. It will of course require verification.—*British Med. Journal.*

PUERPERAL FEVER.—Dr. Matthews Duncan says of this fever: Puerperal fever, or metria, is to me a hotbed of insufficient and false hypothesis. I do not believe there is any such single disease. The term includes a variety of diseases, and a variety of modifications or terminations of diseases. It is familiarly described as a zymotic disease. It is described universally as occurring in epidemics; not merely as an epidemic. I feel certain, and believe I can prove, that an epidemic of puerperal fever never occurred,—that no accepted definition of an epidemic can be made to include metria. When authors speak of epidemics of metria, of puerperal fever sweeping over a country, as they do speak, they are merely giving the reins to a misleading hypothesis which suits their present purposes or fancies. This disease is described as being contagious, or infectious, or both; but the authors who do this forget, with an almost ridiculous carelessness, to define what the disease is of which they are speaking so confidently, to show whether there is any such fever or not, and still more to define contagion and infection.—*Lancet.*

A MODIFICATION OF THE OPERATION FOR ARTIFICIAL PUPIL.—M. Liebreich has just presented to the *Académie des Sciences* an instrument which he has devised for the purpose of modifying the shape of the artificial pupil more surely, and more in accordance with the demands of each individual case than hitherto. It depends on the application of a mechanical principle, which has not as yet been utilized in surgery, and consists of a forceps whose handles do not open in the ordinary manner, but which revolve on a longitudinal axis in such a way that their rotation both opens and closes their curved extremities. Introduced into the anterior chamber by a narrow incision through the cornea, the forceps may be widely opened without the part of the instrument engaged in the wound sharing in the motion in the slightest degree. Consequently this forceps can be introduced in any given direction, whereas the instrument hitherto employed could not deviate from the radial direction.

IS DIABETES A NERVOUS DISEASE?—Dr. Dickinson, in his recent paper before the Royal Medical and Chirurgical Society, after showing the *post-mortem* appearance of the brain and spinal cord in four cases of diabetes, says it would seem that diabetes is associated with an organic change, which may be briefly described as a destruction of the nervous matter along the arteries of the brain and cord. He thinks we may give up the view that these changes are consequent upon the diabetic state of the blood, and grant that the nervous alterations *produce* the glycosuria. The alterations in the brain are, in nature and seat, those which physiology has shown are capable of producing diabetes. The urine often becomes saccharine in consequence of injuries of the head, apoplectic seizures, intra-cranial tumors, and cerebral irritation. Diabetes, though sometimes hereditary, continually results from circumstances exerting a depressing or otherwise injurious action on the nervous functions. Among these may be mentioned mental disturbance, rage, grief, anxiety and toil, dissipation, and especially sexual excesses.—*Medical Press and Circular.*

A NEW TEST FOR ALBUMEN.—Dr. Tidy, in addition to a mixture of equal volumes of glacial acetic and carbolic acid, recommends, as a very delicate test for albumen, the addition first of ten drops of alcohol at 0·805, and subsequently the addition of carbolic acid. This is, he maintains, a very delicate test for albumen, much more so than nitric acid and boiling. The tube must be shaken and allowed to stand a minute.

CARBOLIC ACID IN PSORIASIS.—Dr. M'Call Anderson prescribes carbolic acid in psoriasis in doses of from three to ten grains thrice daily, and says he has good results from this treatment. The following is the formula he employs: Crystallized carbolic acid, three drachms; glycerine, one ounce; water to six ounces; a teaspoonful in a large wine-glassful of water thrice daily before meals.

BROMIDE OF POTASSIUM.—A paper by M. Namias, of Venice, was lately read before the *Académie des Sciences* on the subject of the action of this salt. From researches carried on for some time, the author concludes that the bromide is a medicine which accumulates in the economy, and soon saturates the organism as a consequence of its non-excretion through the urinary tract.

In remarking on this communication, M. Balard, who first discovered bromium, took occasion to express his regret that the bromide of sodium had not been tried in therapeutics in preference to the bromide of potassium. To introduce into the system the salts of potash is by no means a matter of indifference, whereas the perfect tolerance of the salts of soda by the human body is well known.

MANGANESE IN BLOOD AND MILK.—A memoir just read at the Royal Academy of Sciences of Italy, by Professor Polucci, announces a great discovery. It is the constant presence of manganese in the human blood. In more than twenty analyses of the blood of persons of different sexes, professions, health, and temperament, there was always found a certain proportion of manganese.

One of the consequences of this fact is, that the metal ought to be also found in milk. Submitted to experiment, this deduction is entirely confirmed. In thirty-four analyses of milk, twenty-three of which were human, four from the cow, and four from the goat, the presence of manganese was constantly observed.—*Medical Press and Circular.*

HEREDITARY SYPHILIS.—Mr. Henry Lee accounts for the transmission of syphilis to the ovum, and thence to the mother, years after the secondary stage has passed in the father, by saying that the internal structures may yield a diseased secretion capable of imparting syphilis long after the skin has ceased to be liable to do so.—*Med. Press & Circular.*

DIURETICS.—Dr. Nunneley, of York, in experimenting on himself with citrate of potash, in doses of 10

to 18 drachms in twenty-four hours, found his urine increased 2½ ounces, whilst the urea decreased 84 grains, and the solids 60 grains. The spiritus etheris nitrici, in doses of 10 to 18 drachms in twenty-four hours, slightly increased the water, and diminished the urea and solids; and the oil of juniper, in doses of 30 or 40 drops in twenty-four hours, slightly increased the urea and solids. It would appear from these facts that the substances are by no means very powerful diuretics.—*Med. Press & Circular.*

The Progress of Surgery.—Mr. Bryant, in an oration in the Hunterian Society, relates how, in 1820, bleeding, calomel, and opium were employed in strangulated hernia; how gonorrhœa was treated by bleeding and mercury. In 1835 Dr. Babington related how a lady had been bled every week to 10 or 12 ounces. A seton used in 1830 to be passed down to the urethra in tetanus; and Dr. Hamilton used to recommend the patients with ovarian dropsy to beat the belly with a steel instrument with four brass balls at the end. Eggs were used as pessaries, too. All this within this wonderful century!—*Med. Press & Circular.*

Recurrent Hemorrhage.—Mr. Paget, after mentioning that recurrent hemorrhage is essentially due to reaction, and comes on more rapidly in strong persons after amputation than in the weak, deprecates the plan of giving much stimulation to patients after operation, as likely to be followed by bleeding. In cases of morbid or cancerous growths recurrent hemorrhage is peculiarly apt to occur, or after some inflammation or acute pain in the part. In such cases it is advisable after amputation to sling the limb, and leave the vessels exposed to the air. If not sufficient, ice should be applied, and in desperate cases compression of the main artery by tourniquet, or opening up of the flaps and tying the vessels again. The main vessel should not be bled until it is ascertained whether, if that were done, bleeding would be likely to cease or not.—*Med. Press & Circular.*

Uterine Cancer.—Dr. Routh speaks hopefully of some cases of cancer of the womb. Cancer is not always a blood disease, although doubtless often so. Even if it were, topical remedies are useful in syphilis. Why not in this? The progress of uterine cancer is not very rapid. Iodine, carbolic acid, and bromine seem especially indicated as escharotics in uterine cancer; or, when the mass is large, the red-hot iron is useful. In the case of one patient treated by bromine caustic, the patient eight months afterwards was still quite well. He thinks that in all epithelioma, where the uterus is still movable, the cancer may be cured. If the growth is large he usually destroys it by red-hot iron, or by the écraseur of Dr. Hicks. He prefers bromine as a caustic, dissolved in spirit, moulding a cup of gutta-percha to the diseased uterus; lining this with cotton wadding, and applying this, saturated with a solution of bromine, directly to the part, keeping this in its place by means of cotton soaked in carbonate of soda for 24 hours. The solution used of bromine was 1 to 5. It should be made a few minutes before it is used. Great care must be taken lest explosion takes place, and the bromine is added slowly to the spirit. Fowler's solution is taken at meals.—*Med. Press & Circular.*

Shot a Remedy for Ileus.—Dr. Maydieu, of Argent, in France, states in the *Journ. de Méd. Prat.* quoted by the *Bulletin de Thérap.*, May 15, 1870, that for seventeen years he had treated cases of ileus by the means recommended in books, and had always failed. Four years ago he tried the old remedy of heavy substances ingested into the intestinal canal, and has been invariably successful *in the twelve cases* which have latterly come under his care. Instead of actual bullets or crude mercury, M. Maydieu uses shot No. 5. About seven ounces are carefully and repeatedly washed, then mixed with four ounces of olive oil, and the patient takes a dessert-spoonful of the combination every half-hour. Five or six hours afterwards the vomiting ceases, gases are expelled, and an alvine evacuation is obtained. The author does not, however, neglect other means, such as warm baths, soothing applications, &c., and especially insists upon enemata with milk and honey—viz., one pint of the former to three tablespoonfuls of the latter.—*Lancet.*

Safe Anæsthetics.—M. Sauer, a surgeon-dentist of Berlin, after having performed various comparative experiments with anæsthetic substances, has come to the conclusion that the very best is a mixture of protoxide of nitrogen, chloroform, and atmospheric air. He considers this compound to be free from the dangers attendant on the use of either chloroform or the protoxide alone. The proportions which he advocates and employs are the following:—Liquid chloroform, six grammes; atmospheric air, three-quarters of a litre; and protoxide of nitrogen, sixteen litres.

The Properties of Ipecacuanha.—Dr. F. J. Brown, of London (*British Med. Journal*), at a meeting of the South-Eastern Branch Association, London, advocated Mr. Higginbothan's mode of treatment of uterine hemorrhage by emetic doses of ipecacuanha—30 grains. *Post-partum* hemorrhage is arrested within three minutes. He also stated that hip-joint disease is readily cured by this agent, in three-grain doses three times a day.

External Use of Iodine.—Dr. Brown, of London (*British Medical Journal*), recommends a formula for the external use of iodine, by which the color is bleached whilst the effects are augmented, viz.: equal parts of tincture of iodine and of liquor sodæ chloratæ.

Large Calculus.—Dr. Watson (*British Med. Journal*) exhibited to the members of the Medico-Chirurgical Society of Edinburgh, April 6th, an uric acid calculus, which he removed from a boy aged 17; it weighed eight and a quarter ounces, and measured 9 inches in its long circumference. The patient died on the fourth day, and it was found that the bladder showed traces of epithelial disease.

Osteo-Sarcoma.—Dr. Hammer, of St. Louis, Mo. (*Med. Archives*), exhibited before the *St. Louis Medical Society* a patient upon whom he had successfully resected the superior maxillary bone, on account of an osteo-sarcoma about the size of a pigeon's egg.

Anointing in Infantile Disorders.—H. Guard Knaggs, M.D., F.L.S. (*Lond. Lancet*) during the past 11 months, has been testing, with uniformly successful results, the value of a very simple method of treating such infantile complaints as atrophy, bronchitis, convulsions, diarrhœa, febrile disturbance generally, and indeed all disorders of childhood which are accompanied by an unnatural state of the skin. The treatment simply consists in smearing with salad oil the whole surface of the body, from the crown of the head to the tips of the fingers and toes, the process being repeated every 12, 6, or even 4 hours, according to the urgency of the case. Of course the use of a long flannel gown or small blanket is obvious, and the fluid should be slightly warmed.

It seems as though the good old German and Roman practice will have to come up again.

THE MEDICAL RECORD.

A Semi-Monthly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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New York, July 1, 1870.

SHALL WE CONSULT WITH FEMALE PHYSICIANS?

AT the recent meeting of the Pennsylvania State Medical Society, held at Philadelphia, the question of woman's rights in medicine came up, and received a very full discussion. Our Philadelphian brethren have made themselves experts in the matter in question, and their opinions *pro* and *con* should be respected accordingly by the profession at large. We regret our inability to publish the proceedings of the Society in question *in extenso;* but, in lieu of it, we will endeavor to give an idea of the case from the last standpoint. In order to do this we shall glance at the respective doings of the Philadelphia County Society and the Pennsylvania State Medical Society, in reference to the point at issue, from the time the general question was first presented to them for consideration.

At the meeting of the Pennsylvania State Medical Society in 1860, at the instance of the Philadelphia County Medical Society, a resolution was adopted to the effect that it was unprofessional for members to consult with the graduates or *attachés* of the Woman's Medical College of Philadelphia. These objections were based upon the fact that the institution was not regularly organized, and not conducted in a manner to insure the reception of a good medical education by the students. At a meeting of the State Society, held in 1866, after some discussion this resolution was reconsidered, and referred back to the County Society for a report. A committee was accordingly appointed, with Dr. D. Francis Condie as chairman, and the said committee, at a conversational meeting of the latter body, held March 13, 1867, duly presented a protest against the repeal of the resolution, and the following was adopted accordingly:—

"*Resolved*, That the Philadelphia County Medical Society cannot consent to the repeal of the resolution passed by the Medical Society of the State of Pennsylvania, at its session of 1860, in reference 'to the graduates of Female Medical Colleges, *as at present constituted;*' and they hereby instruct the delegates from the Society to the next session of the State Society, to use all honorable means to prevent the repeal of the said resolution, which they believe to be as loudly called for now as at the period when it was passed.

"All of which is most respectfully submitted by

"D. FRANCIS CONDIE,
"JOHN F. LAMB,
"A majority of the committee.

"PHILADELPHIA, March 13, 1867."

This was followed, after a heated discussion, by the passage of another to this effect:—

"Nevertheless, nothing in the foregoing resolution shall be construed to forbid any member of this Society from consulting with any female practitioner who shall be declared by the American Medical Association as regularly educated, and who gives sufficient evidence of strict adherence on her part to the code of medical ethics."

Within a week after the passage of the above the subject was again brought up, and an attempt made to prove that the college was to all intents and purposes a regular one. But it was shown that one of the professors had issued a circular calling the attention of the people to some infallible cholera remedies which he had for sale, and the result was as might have been imagined. At the same meeting much was said as to the physical and moral propriety of women studying medicine, and the following explicit declaration was made:—

"*Resolved*, That in conformity with what we believe to be due to the profession, the community in general, and the female portion of it in particular, we cannot offer any encouragement to women becoming practitioners of medicine, nor can we consent, on these grounds, to meet in consultation such practitioners."

Nothing more was accomplished until the fall of 1868, when the following was passed:—

"*Resolved*, That it is the sense of this Society that the preambles and resolutions adopted by it in regard to Female Colleges, their professors and graduates, are such as do disqualify such professors and graduates from becoming members of this Society; and further, that the accepting and filling of any professional chair in a Female College by a member of this Society disqualifies him for active continued membership of this body; and furthermore, that the essence and sense of the preamble and resolutions referred to deny to the members of this Society the right to professionally consult with any professor or graduate of a Female College."

Since the passage of that resolution several of the members openly attached themselves to the college, and did at the same time refuse to withdraw from the Society, notwithstanding their attention had been drawn to the propriety of so doing by a special vote of the body.

It was principally concerning the right to enforce this resolution of the County Society that the recent discussion before the State Society was held. It is

claimed that the Woman's Medical College is in every respect regular, and on that ground should be recognized in representation and consultation; and if such be the case we see no reason why the obnoxious resolution cannot be rescinded. With a conviction that women can distinguish themselves better in any other sphere than that of medicine, we are nevertheless in favor of having them try to do what they can in their newly-chosen calling. In order that this may be fairly done, we must not interfere with their efforts to elevate their requirements for graduation, but rather aid them in so doing—that the excuse may not afterwards be offered that fair opportunities for improvement were not granted them. The discussion in Philadelphia has shown that the passage of the resolution in question, although right enough in the beginning, was wrong in the end, as proven by the facts presented, and the indisposition to expel those offending members who still maintain their connection with the college. As the whole matter lies over for action at the next meeting of the American Medical Association, and as the President is believed to be a strong advocate for the college, there will no doubt be a strong effort to settle the status of the institution for ever and establish its right to honorable recognition. Thus far nothing is positively established as to whether we can or cannot consult with regular female physicians, and until the question is settled every one must do as he pleases, trusting to a fair trial to prove that ladies are, on physical and moral grounds, unfitted for such a relationship. We are willing to give the lady every opportunity to do what she thinks she can for good in medicine, because we are confident that it is the surest and best way to prove her absolute unfitness for the task. If she is a regular physician let us consult with her, and if possible "throw aside the question of sex for the sake of pure science."

Reviews and Notices of Books.

OBSTETRIC OPERATIONS, including the Treatment of Hemorrhage. By ROBERT BARNES, M.D. Lond., F.R.C.P., Obstetric Physician to, and Lecturer on Midwifery and the Diseases of Women and Children at, St. Thomas's Hospital; Examiner in Midwifery to the Royal College of Physicians, and to the Royal College of Surgeons; formerly Obstetric Physician to the London Hospital, and late Physician to the Eastern Division of the Royal Maternity Charity. With Additions by B. F. DAWSON, M.D. New York: D. Appleton & Co., 1870.

DR. BARNES'S valuable contribution to obstetric science is remarkable alike for the completeness with which all the necessary operations of midwifery are described, and for the humane conservatism insisted upon throughout in regard to their adoption. In his opening chapter the author expresses the opinion that "huge heaps of instruments may, without loss to science, and with great comfort to womankind, be cast into the furnace, and the ideas of their inventors melted out of them." On the other hand, he says in one of the chapters on forceps, "the absurd dread of possessing powerful instruments has long been the bugbear of English midwifery. It has been sought to make an instrument safe by making it weak. There can be no greater fallacy." All the various instruments are described in detail, together with their mode of operation, and the circumstances calling for their employment. The mechanism of labor, and the management of cases where nature is at fault, are treated of in a most satisfactory and masterly manner. The author boldly takes ground in favor of turning as a means of delivery in labor obstructed by pelvic deformity, regarding the performance as one holding out some hope for the child, and adding nothing to the danger or difficulty of perforation afterwards, if it should be necessary.

The chapters on "Sacrificial Midwifery" are entered on with evident reluctance; but the "border-land" once passed, the clear judgment of the author is conspicuous on every page, while all the opinions advanced are fortified by his large and varied experience. Some decided views are expressed regarding the induction of premature labor. Experience, the author thinks, "is adverse to the opinion that pregnancy exerts any beneficial influence upon phthisis." He believes, however, that pregnancy is less trying to a phthisical patient than labor and childbed, and that it is therefore desirable, in the interest of the mother, to postpone labor as long as possible. The author advises that premature labor should never, under any circumstances, be undertaken without the knowledge or sanction of some professional brother. In treating of habitual abortion he condemns the common neglect of curative and prophylactic measures. "Do not sit down disarmed and passive," he says, "under the influence of that ignorant dogma which asserts that women have a habit of aborting, that they are laboring under an abortive diathesis. This is no more than saying that women abort because they abort, which is not very instructive." Of the sequelæ of abortion, he says: "It must be remembered that a patient who has suffered abortion is liable to all the puerperal affections that assail women who have been delivered at term; for example, hemorrhage, phlegmasia dolens, septicæmia, and other forms of puerperal fever, and pelvic peritonitis."

The subject of hemorrhage in all its varieties occupies considerable space, and the method of using the perchloride of iron by injection, original with the author, is fully set forth. The closing chapter is devoted to twins and monsters, and the peculiar dangers attending their delivery. The work is one indispensable to the obstetrician, and of great value to every practitioner aud student.

The profession should be aware that this volume is not strictly a reprint of the English edition, but is made up of the lectures of Dr. Barnes as published in an English medical journal. These lectures have been collected and edited without the permission of the author. The English edition has had the advantage of correction and revision by Dr. Barnes, in lieu of which the American edition has been edited by a gentleman whose claims to distinction, as displayed on the title-page, are at least as numerous as those of the author himself. The additions made by the editor consist of three or four pages of remarks, interspersed throughout the book, and about fifteen pages of extracts from American authors. The dedication by the editor of a book not his own to a distinguished professor, is an anomaly in medical literature, and seems to us a very singular way of expressing "high regard and gratitude." The truth is that this sort of editing is merely a cheap and generally harmless means of achieving

publicity at the expense of others. But where it may deprive a book of the finishing touches of the author it becomes intrusive and objectionable.

THE MEDICAL REGISTER of New York and vicinity for the year commencing June 1, 1870, published under the supervision of the New York Medico-Historical Society. E. Lee Jones, M.D., Editor. Vol. VIII. New York: Bradstreet Press. 16mo., pp. 410.

WE have said so much concerning the advantages of medical registration, and have remarked so frequently upon the enterprise of the Medico-Historical Society in proving the desirability of a conscientious trial of the system, that to do anything more upon the subject would seem like a work of supererogation. But we cannot resist the temptation of saying another word in favor of the Association on the occasion of the appearance of its last volume. The work before us, which appears earlier than usual, is everything that its patrons can expect in completeness and thoroughness of detail. The editor, Dr. E. Lee Jones, has shown himself eminently fitted for the work, and deserves great credit for the fidelity with which he has discharged the trusts of the Association. The recent action of the State Medical Society has been fruitful in furnishing a more or less complete list of the members of the county societies throughout the State, and as the respective secretaries get accustomed to make their returns promptly and regularly, we see no reason why the name of every regular practitioner in the State may not be found in its proper place. In the present volume many new institutions are noticed and much very desirable information added. As a whole, we believe that the work has not its equal for reliability and completeness in any language. We cordially recommend it to every medical man throughout the country, who is desirous of being well informed concerning everything and everybody of any medical interest in New York or its immediate vicinity. The book is very well printed.

Reports of Societies.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

STATED MEETING, MAY 2, 1870.

DR. GEO. T. ELLIOT, PRESIDENT, in the Chair.

THE report of the Committee on Intelligence was read by Dr. Thompson, and that of the Committee on Diseases by Dr. Raborg.

ORIGIN OF DIABETES.

DR. WM. T. LUSK read an important paper *On the Origin of Diabetes, with some New Experiments regarding the Glycogenic Function of the Liver.* He carefully reviewed the history of the doctrine of sugar-formation by the liver, with special reference to the experiments of Bernard, who first announced it, of Pavy, perhaps his ablest opponent, and of Flint, Jr., who, a year or more since, endeavored to reconcile their conflicting observations. He then narrated his own experiments, undertaken to test the validity of Pavy's objection, that the sugar discovered by Bernard in the liver and the blood of the hepatic veins was the result not of a physiological, but of a post-mortem process. For the details of these interesting experiments we refer the reader to the paper itself, in the *New York Medical Journal* for July, and present here simply the conclusions derived from them:

"1. That the blood of the general system, in carnivorous animals confined to a nitrogenous diet, contains appreciable quantities of glucose, not only during the period of digestion, as admitted by Bernard, but even in cases where animals have been deprived of food for a considerable period of time.

"2. That the blood of the right side of the heart contains from one-fourth to one-half of a grain of glucose per fluidounce, under strictly physiological conditions.

"3. That the quantity of glucose in the right side of the heart is from two to four times greater than that found, under corresponding circumstances, in the jugular vein.

"4. That this excess argues a by no means insignificant amount of sugar in the pure hepatic blood, before it has become largely diluted with the comparatively non-saccharine fluids of the venæ cavæ.

"5. That we are forced to admit the fact of sugar-formation by the liver, though we fail to detect the presence of sugar in the liver-tissue when, after death, the fermentation of the glycogenic matter is prevented."

"Now are we, in view of all the facts, justified in further assuming that the liver is the sole source of the sugar found in the economy? The question is of the utmost practical importance, as involving the origin of diabetes." Again our limits compel us to omit the writer's discussion of this question, and to give only an extract from his summary: "The causes of diabetes are various, and the source probably not confined to a single organ. At the same time the liver is to be regarded as the most active agent in sugar-formation. At times it may be the indirect cause of diabetes, by its failure to fulfil its function of arresting the passage of saccharine principles through it. We are to regard the labors of Bernard, Pavy, and Bouchardat as severally adding to the sum of our knowledge of diabetes. There is no reason to suppose that the truth lies in any individual exclusive theory."

DR. AUSTIN FLINT, SR. — To make a beginning of the discussion, I offer a single observation. It sometimes happens that pathology communicates facts of importance in their bearing upon physiology, and it seems to me that in this instance we have an illustration of it. That in diabetes a change of diet, so as to eliminate in great measure the starchy and saccharine principles, has a very marked effect in diminishing the amount of sugar in the urine, is well known; though perhaps all may not have noticed the great extent to which the sugar is diminished. This fact seems to point to the view that the formation of sugar depends in no small degree upon the diet.

I have two cases of diabetes now under my care. In the first, which I have had under observation for a considerable time, the treatment has consisted alone in the regulation of diet. On this treatment the urine has been reduced to its normal amount, and its specific gravity has fallen from 1040 to below 1030. Reagents still show the presence of sugar; but, were it not for this, the patient would consider himself perfectly well —indeed, he feels better than before he discovered his disease. The second case has been under observation but a short time, yet even in that time the urine has been reduced in amount one-half, and in specific gravity from 1040 to 1030.

The dietetic treatment can be made very comfortable to the patient, if only the physician will take sufficient pains to explain the range of articles allowed, and the patient sufficient pains to prepare them. With proper variety and proper cooking the diet is not unpleasant, notwithstanding the total exclusion of saccharine articles and the almost complete exclusion of amylaceous.

Dr. Gouverneur M. Smith remarked that he had recently gathered some facts in relation to the pathology of diabetes, but was not as yet prepared to present them, as he was still investigating the subject, and anticipated making future use of the facts elicited.

In a communication received in February last from Dr. Dickinson, of London, the Doctor had informed him that, from observation of five diabetic patients, it seemed to him there are constant and very peculiar changes in the cerebro-spinal system, resembling in some respects those found in the general paralysis of the insane, and this led him to the inference that diabetes is primarily a nervous disease. An abstract of Dr. Dickinson's views is to be found in the *Lancet* of February 19, 1870.

Dr. Smith would on this occasion only allude to two cases. One of them he had to-day seen—a man of active business habits, nervous, dyspeptic, addicted to excessive venery. He was so fond of sugar as constantly to carry bonbons about with him. It was a peculiarity in the case that the diuresis was not excessive. The patient had been, for about two weeks, on a treatment chiefly dietetic, and the glycosuria had diminished, as in the case just alluded to by Dr. Flint. The other case had been under his care within a year, and had terminated in a peculiar manner. The patient was a gentleman of means, who had been conspicuous for his mental activity and commercial enterprise. He had suffered with diabetes for several years. Leaving business, he travelled in Europe, and, while free from care and using the alkaline waters of the German Spas, he was relieved from the more distressing symptoms of his malady. He returned to this country intending to make but a brief stay. His urine examined about this time still showed the presence of sugar. While preparing to retire one evening he pricked the bulb of the great toe with a tooth of a tortoise-shell pocket-comb, which had broken off and fallen on the floor. This puncture excited a peculiar morbid condition, ending in mortification of the toe and finally of nearly the entire foot. The gangrene partook of the senile character, and its progress was not rapid, the accident occurring April 5, 1869, and the patient dying from exhaustion on the 19th of the following July. Dr. Thomas M. Markoe early saw this case in consultation, and at a later period also Dr. Alfred C. Post. Gangrene of the lower extremities was occasionally a termination of diabetes, irrespective of any traumatic cause, Marsh, Colles, Marchal, and others reporting cases of this nature. No such termination, however, had ever been observed by the attendants in the case alluded to. As boils, carbuncles, and gangrene were liable to occur during the course of diabetes, so, conversely, during the outbreak of boils and carbuncles there occasionally appeared a transient diabetes, such instances having been noted by Prout, Wagner, Vulpian, and others. This latter clinical fact was of interest in connection with the subject of glycogenesis.

Dr. J. C. Peters referred to a case of diabetes which had, in two attacks, been preceded by jaundice, indicating some connection of the disease with the liver. A case under his care last summer had surprisingly improved upon change of diet and tincture of nux vomica, five drops thrice a day.

Dr. Peaslee.—This is a subject upon which, for twenty years past, I have thought more, perhaps, than upon any other in the whole domain of pathology; but I have come to no satisfactory conclusion. There are one or two points, however, which may aid us in coming to such a conclusion.

In the first place, while diabetes is so common in England and in this country, it is very uncommon in Germany. Some of our distinguished German *confrères* have told me that they had seen but two or three cases there in their lives. This would show that there are predisposing causes of great importance, coming probably under the class of dietetic or hygienic influences.

I think we may conclude, also, that the cause of this disease is not always to be found in the same organ—that it must not be made to depend entirely upon a certain condition of the liver. Its pathology is probably not simple, by any means. Doubtless there is more than one condition which may aid to produce it—more than one condition of the same organ, perhaps; or certain conditions which may affect different organs; or it may be the same condition of the different organs.

There is one point I think very probable—that the sugar is at any rate the result of disassimilation. The fact that in the progress of the disease there is such rapid emaciation goes to show that the disease essentially consists in a development of sugar in consequence of disassimilation of tissue. Now whether it be from disassimilation of the liver alone that we are having sugar formed all the while during our lives—whether from that alone, or from disassimilation of other parts also—remains to be seen. The sugar of milk is doubtless produced from disassimilation of the substance of the mammary gland itself, not by a definite act of secretion. And no more is the production of sugar in the liver the result of a special secretion of the organ; it is a part of the normal process of nutrition.

It is a very interesting fact that the sugar of diabetes is grape sugar, glucose, hepatic sugar—words all indicating a sugar identical in composition, though from different sources. Interesting, too, as showing that the affection has not one cause, but many, is the fact that the tincture of nux vomica, which we have all made use of in diabetes,—for all of us who have been some years in practice have seen many cases of the disease,—is in some cases valuable, in others not at all; and so with the tincture of chloride of iron, and with the alkalies. The fact that diabetes often follows icterus, as stated by Dr. Peters, and that it is necessary to modify the secretion of the liver,—that is, to modify its nutrition,—points in the same direction. The disease is due to several causes, and it will be for us to decide what is its pathology in each instance, and address our remedies to the organ affected. When we have left the narrow view that confines the origin of diabetes to one organ alone, we have taken the first step toward the true knowledge of its pathology.

Dr. Austin Flint, Jr.—I have naturally taken a great deal of interest in this paper, not only from the importance of the physiological question involved, but also because it is a question in the investigation of which I have myself been very largely engaged. I would like to call the attention of the Society to one or two points in the paper of very great importance, which probably the modesty of Dr. Lusk prevented him from putting forward as prominently as they deserve, for they are his own property.

The point of greatest interest is the process which he has fixed upon for the quantitative determination of sugar in the blood. The Fehling test is a very valuable one for the determination of sugar in the urine, where it is not masked by other principles, and where the use of the test is attended with no difficulty; but when this same test is applied to determining the quantity of sugar in the blood, it is impossible, by the ordinary method, to make an accurate quantitative estimate, for the reasons that the proportion of sugar is usually very minute, and that the process of extraction in a clear so-

lution is somewhat complex. But by adopting Dr. Lusk's method of taking a number of test-tubes, each containing the same quantity of the test-liquid, and adding to each measured quantities of the clear extracts containing sugar, it is easy to see which of the test-liquids are the most completely decolorized, and present the greatest amount of precipitate, and in this way to arrive at a comparative estimate of the proportion of sugar. This method, applied to two liquids, cannot fail to give, in the most satisfactory manner, a definite idea of the relative proportion of sugar in each. I could only wish that Dr. Lusk had carried his process a little further, and separated and weighed the precipitate of copper. But perhaps this is not necessary in the present instance, in which the important point to determine is the preponderance of sugar in one or the other of the specimens examined.

I may perhaps be permitted to say a few words on my own experiments upon the glycogenic function of the liver. When I first began to teach physiology to medical classes, I found no difficulty in repeating the experiment of Bernard, and showing want of sugar in the portal blood, sugar in the substance of the liver, sugar in the hepatic blood, and in the right side of the heart. As, however, I gained in experience and experimental dexterity, I went through with the manipulations more rapidly; but the better I did it the more unsatisfactory was the result, slight traces of sugar only appearing in the extract from the substance of the liver. The explanation occurred to me—and I believe the idea is original with myself—that during life the liver is constantly producing sugar, but that the blood is as constantly washing it out. This explanation was suggested by the experiment of washing the liver free from sugar, by a current of water passed through the vessels; letting it stand awhile; and then finding sugar which had formed again in its substance.

Surveying the field to get the point of departure for further research, the view of Pavy and that of Bernard seemed to be the only two entitled to consideration. Bernard seemed to lack strength in the fact that, while Pavy said positively that there was no sugar in the liver during life, he never took the liver under the conditions prescribed by Pavy, and established the fact of the presence or absence of sugar; and Pavy was weak in this, that while Bernard said the blood of the hepatic vein invariably contained sugar, and the portal blood none, Pavy never applied the accurate quantitative test to the blood taken from these different vessels. Had he applied the test used by Dr. Lusk, he could not have failed to admit the preponderance of sugar in the blood of the hepatic veins. Pavy seemed unphilosophical, also, in assuming without reserve that the sugar in the blood was inevitably the consequence of post-mortem change, and allowing this idea to influence all his deductions. In some of his experiments he adopted the very rough process of injecting a solution of potash into the portal blood, which he said would arrest the production of sugar—an experiment in which the conditions were manifestly unphysiological.

It seemed to me a simple enough question to find out the truth of the matter. If the liver be constantly producing sugar during life, we ought certainly to be able to detect it. I set about my experiments in what seemed to me to be a simple, common-sense way. I had a dog for a long while in my possession, so that he was accustomed to me, and could be handled freely. This animal was fed exclusively upon meat. In making the experiment I placed him gently upon the operating table, keeping him perfectly tranquil; had him held on his back by assistants; and without the use of an anæsthetic, while the animal was perfectly quiet, I opened the abdomen in the whole length of the linea alba by a single sweep of the knife. I then cut off a piece of the liver, rinsed it from blood in a vessel of cold water, and cut it up into boiling water. The time between the first incision and cutting up the liver into boiling water was ten seconds. To all intents and purposes this was a living liver; and it is well known that boiling water prevents any post-mortem change of glycogenic matter into sugar. I never found a particle of sugar in an extract of the liver thus treated; and so Pavy seemed certainly right on this point.

The next question was to confirm the observations of Bernard upon the blood. I made several experiments upon this point in the following manner: I had the animal, a dog, held on his back, and kept perfectly tranquil. I first broke up the medulla oblongata; then applied a ligature to the portal vein as it enters the liver; then opened the abdomen and chest freely, cut out a portion of the liver, and cut it up into boiling water; I then applied a ligature above the renal veins in the abdomen, and a ligature above the hepatic veins in the chest, and collected the blood from the portal veins, and the blood coming from the liver. The entire operation, in an experiment which I have published in my work on physiology, only occupied sixty seconds. I found no sugar in the portal vein, and I found sugar in the hepatic vein. The experiment I allude to was performed before the class of the Bellevue Hospital Medical College, and in the presence of Dr. Lusk.

This experiment, which I have verified time and again, entirely confirms the experiments of Bernard and others, and I consider the question settled, that sugar is not contained in the blood of the portal vein, in animals confined to nitrogenized food, but is always contained in the blood of the hepatic veins. It seems to me that I have settled the question, also, that sugar is not contained in the substance of the liver during life; but that it is, none the less, formed in the liver during life, being washed out by the current of blood as it passes through, appearing, of course, in the blood of the hepatic veins. These facts harmonize the apparently discordant observations of Bernard and of Pavy, and give the first accurate notion of the exact mechanism of glycogenesis which is in accordance with all the well-established experimental facts.

With regard to the position taken by Dr. Peaslee, I can see no reason for regarding sugar as a product of disassimilation, and I can see every reason for considering it an alimentary substance. In my experiments upon cholesterine, I assumed that it was necessary to ascertain that this principle is actually discharged from the body, in order to prove it to be an excrementitious substance, or a product of disassimilation. If sugar be a product of disassimilation, it is a waste product. All such products are gotten rid of, cast off from the body. Sugar is never discharged from the body in health; sugar is taken as food; sugar is formed in the body. No one would call fat a product of disassimilation; and fat is taken as food, fat is formed in the body, as is sugar, and in its relations to nutrition presents many analogies with sugar. Fat is never discharged from the body in health.

There is one exception to this rule as regards the discharge of sugar and fat, and that is in the milk; and here we have a most curious departure from the general laws affecting the mechanism of secretion. It is a recognized fact that glandular epithelium is necessary for secretion; the remarkable exception is in the

mammary glands. These glands, rudimentary at birth, and in the male rudimentary throughout life, undergo one change in their development at puberty, but then are incapable of producing milk; they undergo another change during uterine gestation; and it is only in the latter part of this that they can secrete milk. When the secretion of milk is fully established, there are no secreting cells lining the glandular acini; and the bare membrane seems to be the agent which forms the butter, casein, and sugar. This, far from showing sugar to be an excrementitious substance, shows it to be a principle very necessary for the nourishment of the infant.

The observations which I made in 1868-69; their repetition soon after by Dieffenbach, who did not know of my own experiments; and the additional confirmation they have just received at the hands of Dr. Lusk, I think settle the question concerning the sugar-forming function of the liver.

DR. PEASLEE.—If Dr. Flint considers cholesterine a product of disassimilation, because it leaves the body after its conversion into another product, might we not also regard sugar as such a product if we can find substances leaving the body into which the sugar is convertible?

DR. FLINT, JR., replied to the question about cholesterine by giving his arguments to *prove* the change of cholesterine into stercorine. Dr. Peaslee would be perfectly right if he could prove that the sugar was converted into any other substance which was discharged from the body. But Dr. F. knew of no such substance into which sugar was convertible except carbonic acid, which, it was true, was diminished in diabetes. He also agreed with Dr. Peaslee, that we do not know what sugar does in the economy. We do not know that it forms any tissue. He regarded it as entirely analogous to fat, which is introduced into the body, consumed in the body, never discharged in health. They performed some function in nutrition, but what, he had not the slightest idea, and he thought the physiologists of the present day had not.

DR. CHANSEY asked what became of the sugar when taken as food in excessive amount. He had a patient who used to take some five or six pounds of sugar a day—thought he could not live without it. But no sugar could be detected in the urine; there was no diabetes. Some two or three years after the Doctor knew him, this man met with an injury to his leg. The limb mortified, and he died. Dr. C. had attributed the mortification to the great amount of sugar he ate. Lately he had had a child as a patient, that he found breaking out with little sores, which mortified; and he discovered that the child was always eating candy.

DR. FLINT, JR.—If I do not know what becomes of the sugar taken normally as food, I am very sure I do not know what becomes of the excess in the abnormal condition where it is craved. I judge that, in such cases, it is often disposed of in the same way that the ordinary amount is disposed of. It is certain, however, that diabetes has been produced in animals by feeding them with sugar.

THE HARVEY STATUE.

Miscellaneous business being in order, the Special Committee appointed at the meeting of the 21st of February, to inquire into the expediency of recommending that a bronze copy of Horatio Stone's statue of Harvey be placed in Central Park, reported in favor of the proposition; and the Committee was, by vote of the Society, empowered to appeal to the public for funds to consummate it.

The Society adjourned.

REPORT OF THE COMMITTEE ON INTELLIGENCE, READ AT A STATED MEETING, JUNE 6TH, 1870.

By BRADFORD S. THOMPSON, M.D.,

SECRETARY OF COMMITTEE.

MR. PRESIDENT—The subjoined original items are respectfully submitted:—

Dr. Alfred Underhill, of New York, your chairman, reports the following case of *infantile diarrhœa*, occurring in his practice:—A fine male infant of six months, taken from the breast in consequence of tuberculosis in the mother, and living on milk from a healthy cow, was attacked with diarrhœa. When first seen, May 10th, 1870, the diarrhœa had existed a fortnight; the child was much emaciated, its abdomen was flat and flabby, flesh soft, and extremities below the natural temperature. Its head was hot, eyes sunken, and when awake it uttered a constant, fretful cry; its sleep consisted of short naps, from which it suddenly started; occasional vomiting of food; pulse weak, 120 in a minute; the stools frequent, from 20 to 24 in twenty-four hours, of a greenish, offensive character, and a portion resembling half-digested milk.

With reference to the treatment, the mother was first directed to administer the food at regular intervals, and in suitable quantities, which had been overlooked. Lime-water was added to the milk, and the medication consisted of Dover's powder, hydrarg. cum creta, an occasional dose of castor-oil, injections of laudanum, pepsin, bandaging the abdomen with flannel, cooling the head with frequent applications of cold water.

This treatment was continued for about a week, with some variations, and proving unsatisfactory, Dr. Underhill administered the sulphite of soda, according to the following formula:—

℞ Sodæ Sulphite, gr. xv.
Aquæ Puræ, ℥ j.

M.—One teaspoonful every three hours.

A little brandy, in a solution of gum acacia, was also given occasionally. The result within twenty-four hours was most gratifying, and in forty-eight hours a marked change for the better had taken place. From extreme exhaustion, insensibility to surrounding objects, and manifestation of great suffering, it lightened up and was disposed to notice and play with its older sister; its flesh became warmer and more firm, the discharges more natural in appearance and far less frequent—in fact, from a condition of most alarming character it rapidly changed to one of comfort and convalescence, and continued to improve daily until its health was perfectly established.

Dr. F. A. Burrall, New York, reports a case of *rupture of the heart* in a female, born in the United States, æt. 71, single. Patient had been suffering from occasional severe spasms of pain in the chest, but did not send for a physician. Was also in much mental depression. She had visited a friend on the previous day, and on returning in the evening suffered from nausea, prostration, and distress at the præcordia. She retired about midnight, and was found dead on the following morning. She lay upon her back, with the face thrown slightly to the right, the eyes closed, and the mouth open and *dry*. The expression was placid, and there was no appearance of a death struggle.

An autopsy showed an unusual development of adipose tissue. The stomach was much disturbed, the lungs and liver normal, the kidneys small and pale. The pericardium contained a large clot, and further examination showed an irregular rent in the left ventricle about one inch in length. On the inner surface of the ventricle, near the rupture, the muscular tissue seemed

eroded. The tissue of the walls was not examined microscopically, but was markedly fatty on ordinary inspection.

It would seem that there should *be no exudation from the mouth* in case of rupture of the heart, particularly if the rent were large, for a free passage being opened into the pericardium, engorgement of the lungs, or arrest of blood in them, would thus be counteracted. This condition would also diminish the probability of an exudation upon the surface of the bronchial tubes or into the mouth.

Dr. Robert Newman, of this city, considers *Désormeaux's Endoscope* a valuable assistant in the diagnosis and treatment of mucous linings, which otherwise would be hidden from ocular inspection. In granulations of the male urethra, female bladder and urethra, he applies local applications to the diseased parts—generally a strong solution of nitrate of silver.

If such applications are made carefully and intelligently, to circumscribed and diseased tissues only, they give no pain, and invariably cure chronic diseases of many years' standing. To prove this assertion he cites clinical facts, and besides hospital patients, reports forty-six registered cases, as follows: In the male—granular urethritis, 12; acute urethritis, 6; prostatic catarrh, 2. In the female—hæmaturia, with incontinence, 2; granular ulcerations in bladder and urethra, 3; chronic cystitis, with granulations, 7; granular urethritis, 7; urethritis with erosions, or simple ulcerations, 3; over-distention of bladder and enuresis nocturna, 1; calculus—phosphatic, 1; phosphatic incrustation and incontinence, 2.

To facilitate manipulations, Dr. N. has made many improvements and additional appliances to the endoscope. Details of cases, and the mode of manipulating the instrument for diagnosis and treatment, he has explained at length in his papers read before the Medical Societies of the States of New York and Connecticut.

From a number of cases reported by Dr. A. D. Rockwell, of New York, concerning the effects of the constant current on the great *sympathetic* in certain pathological conditions, we submit the following:—

The efficacy of galvanization of the cervical sympathetic in influencing the vaso-motor nerves, and thus reducing the volume of blood in the brain, was in a measure confirmed in the case of a gentleman of sixty years, who was suffering from hemiplegia of the left side. In the left eye there was a feeling of roughness as though a grain of sand was beneath the lid, owing to a decided and persistent injection of the conjunctiva. Under various methods of applying electricity, the patient slowly but manifestly progressed; but the injection of the conjunctiva, with the harassing sensation of roughness, yet remained.

Galvanization of the cervical sympathetic was then resorted to. This treatment, faithfully carried out, resulted in some general improvement; but the effect chiefly observed was an immediate diminution, and ultimately a cure of the chronic injection of the conjunctiva. The result in this case was of special interest and peculiarly suggestive, since it confirmed the deductions of physiological experiments on the effect of electrization of the cervical sympathetic in causing contraction of the arteriolas.

Dr. F. G. Snelling, of New York, reports *a case of pregnancy* dating from the wedding night, in which penetration did not take place until eight weeks after marriage; the semen meantime having been habitually lost at the ostium vaginæ. The testimony of both husband and wife upon the point is conclusive. There was great narrowness of the vagina, and tenderness of the vulva, and the husband was deterred from forcible efforts by the sufferings of his wife. Tardieu reports a similar case.

He also reports *an anomalous cause of death* in a case to which he was called in consultation. The patient, a young lady, died of wasting and inanition arising from difficulty of deglutition, which finally became impossible, for which no cause could be assigned. On making a post-mortem examination, no cause could be discovered to account for the symptoms, until, on removing the clavicles and dissecting about the lower part of the trachea, a small hard tumor was discovered which proved to be osseous in its character. It was about an inch long and half an inch in breadth and thickness; it was hard and solid, with numerous spicula of bone projecting from it longitudinally, and giving it much the appearance of a sequestrum. It was situated just above the bifurcation of the trachea, and inclined to the right side; a nerve was seen to be very intimately connected with the tumor, blended with its substance, and expanded over its anterior surface, which proved to be a branch of the pneumogastric nerve. A number of small spicula of bone were found among the numerous vessels and nervous filaments immediately surrounding the tumor. The tumor did not press upon the œsophagus, and was only loosely attached to the trachea. It was firmly adherent to the posterior surface of the vena cava superior.

By the interference of this tumor with the functions of the pneumogastric nerve was probably produced the peculiar difficulty of deglutition and accompanying disorders of digestion.

In regard to

"OXIDATION OF TISSUE AS THE SOURCE OF ANIMAL HEAT,"

Dr. Andrew H. Smith, of New York, writes as follows: The theory of Liebig, that animal heat was entirely the result of direct oxidation of the tissues through the medium of the oxygen brought to them by the blood, has been abundantly disproved by deductions from well-known facts.

Numerous other decompositions and recompositions, such as must take place in the body, are known to be sources of heat. Plants evolve heat when, under the influence of sunlight, they absorb carbonic acid and give out oxygen; while the moment this process is reversed, from the effect of darkness, the evolution of heat ceases. Thus *deoxidation* is here a source of heat, while *oxidation* is not. Moreover, the production of carbonic acid in the tissues does not require the introduction of oxygen from without, since the tissues already contain a supply, oxygen entering into the composition of every one of them. These, and many other considerations which might be adduced, show that the assumed analogy between tissue-change and combustion rests on a very insufficient basis.

But this idea is capable of refutation by direct experiment, which demonstrates that not only does the respiration of an increased amount of oxygen not produce an elevation of temperature, but that it actually may result in a decrease. To produce this effect, however, a considerable quantity must be inhaled, without being greatly diluted, as in the following experiment:—

At 4 P.M., having found that the thermometer in the axilla stood at 97.7°, Dr. S. inhaled for 15 minutes an atmosphere containing 70 per cent. of oxygen. The thermometer was then replaced in the axilla, and after a quarter of an hour indicated 97.3°. After a few minutes' interval the temperature in the clenched hand was taken, and found to be 97.2°. Without opening the hand the inhalation was resumed, and in 15 minutes the thermometer had fallen $\frac{6}{10}$ of a degree.

During the experiment the pulse fell from 80 to 64. At 10 P.M. the temperature in the axilla was still 97.3°.

These results coincide with those published by Mr. Savory in the *Lancet* some 12 years ago, as obtained from experiments on animals. Together with them they disprove the idea advanced by Priestley, that subjects inhaling oxygen would "live too fast," an idea which would deter from the use of oxygen in cases in which the temperature was already abnormally high. The decrease in the temperature agrees also with a fact which he had before observed, viz.: that the quantity of carbonic acid exhaled is notably diminished for a short time after respiring oxygen.

From an elaborate and able monograph, styled "Notes on the Physiology and Pathology of the Nervous System, with reference to Clinical Medicine," by Prof. Meredith Clymer, M.D., of this city, and reprinted from the *N. Y. Med. Journal*, we glean the following facts: *Disseminated Sclerosis* of the nervous centres may be described under three divisions, according to situation: Cerebral form; Spinal form; Cerebro-spinal form. It is doubtful if the *cerebral form* ever happens strictly alone. The only recorded observation is that by Valentiner and Frerichs. *Spinal Form.*—The invasion is usually very gradual, the first symptoms being tingling and numbness in one or both legs or soles of the feet, which are soon followed by weakness in the limbs; this last may, however, be an initial symptom. *Cerebro-spinal Form.*—The accession may be insidious, as in the preceding form, or abrupt. Simultaneously with, or foregoing, or following the motorial troubles, there are ocular or cerebral disorders, as constant vertigo, pain in the head, difficult articulation, weakness of sight, or diplopy; these are only transitory.

Differential Diagnosis.—This affection has sufficient individuality to secure its ready recognition, notwithstanding resemblances between its several forms and other diseases of the nervous system. Paralysis agitans, or shaking palsy, has been heretofore invariably confounded with this disorder. Paralysis agitans is chiefly met with in persons of declining years. Disseminated sclerosis of the cerebro-spinal centres is a disease of adult life. Nystagmus, so constantly present in sclerosis, is never met with in paralysis agitans. The intellect in paralysis agitans is generally unaffected until near the close, while in diffuse cerebro-spinal sclerosis it is mostly weakened from an early period.

Causes and Pathogeny.—It is essentially a disease of adult life. In the 18 cases collected by Bourneville, 14 were between 26 and 36 years of age; and of these 15 were females. In 13 cases there were: 1 physician, 1 theological student, 1 male teacher, 1 female teacher, 1 pianist, 3 seamstresses, 3 domestic servants, 1 truck gardener (female), 1 flower-woman.

The *pathogeny* of this affection, as well as that of other kindred diseases of the great nervous centres, is obscure and unsettled. May we not possibly find a truer interpretation of their nature by admitting their connection with and dependence on some latent but distinct condition of the constitution of the body, which favors the development of this peculiar form of morbid action? That they are simply varieties of chronic inflammation of the brain and spinal cord cannot well be admitted. They are more than this. The common assigned causes seem insufficient for their genesis, without some impalpable pre-existing tendency. May they not be, like Bright's and Addison's diseases, local expressions of a general state, in which a specific diathesis enters as an essential factor?

Prognosis.—No instance of recovery has been reported. It may be said to be incurable and progressively fatal.

Treatment.—Electricity, blisters, counter-irritants, ergot, arsenic, and belladonna have all been used without good effect. Strychnine temporarily modified the tremors in five cases. Nitrate of silver appears to have done the same, but it does harm if there is muscular contraction or clonic spasms. One case is reported as improved by tonics and sulphur baths. The constant galvanic current should in all instances be fairly tried.

Dr. Bradford S. Thompson, of New York, recommends *Brassica Rapa*—common round white turnip—in the treatment of cystitis resulting from the presence of calculi, and cites a case in point:—

Several years since a male, æt. 60, a resident of Columbia county, N. Y., suffering from the irritation of a large calculus, was operated on by a distinguished surgeon of this city for its removal, by the operation of lithotripsy. One or two particles of the calculus remained, and the old trouble in course of time revived in consequence of the gradual enlargement of the nuclei.

For several months the patient was much prostrated, and was treated by several practitioners, but not much relieved, until by accident he was advised to drink freely of a decoction of the common turnip, which gave great relief during the spasmodic attacks. Before taking this remedy he was confined to the house, but in a short time he was able to attend to business, and continued to do so until his death, from other causes, in 1869.

The preparation of the vegetable is simple—six turnips are put into two quarts of water, the whole boiled down one-half and then filtered. The patient should drink freely three or four times daily.

From observation and personal examination in this and other cases, your Secretary believes that this remedy, besides being a demulcent and antispasmodic, is a partial solvent of alkaline calculi.

NEW YORK PATHOLOGICAL SOCIETY.

STATED MEETING, MAY 25, 1870.

DR. A. L. LOOMIS, VICE-PRESIDENT, in the Chair.

(Continued from page 187.)

RELAPSING FEVER.

DR. WM. B. LEWIS exhibited two specimens from persons who had died at the Hart's Island Hospital of relapsing fever.

ACUTE TUBAL NEPHRITIS.

An aged German, of large frame, was admitted March 25th, when he was able to walk from the steamboat landing to the ward. On the following day he voided urine normally, and when seen in the evening was in an apparently good condition. At 2 P.M. on the 27th he was comatose, with tracheal râles and cold extremities. He died at 6 o'clock that evening.

At the autopsy the lungs, liver, spleen, and kidneys were found more or less diseased. The interest of the case, however, centres in the organs last mentioned. They were very large, and as torn from the lumbar region, of a blackish color, due to intense congestion. Upon section the color was found to be nearly as deep as that of the normal spleen, the cortical portion being ecchymotic in points, though generally of normal

consistence. The torn surface was at once bathed with blood. Capsule in parts firmly adherent, in others removed with slightly more difficulty than is natural. The renal pelvis contained a slight amount of turbid mucus, its membrane was injected to redness. The bladder was small, being firmly contracted, and contained about half a fluid ounce of transparent, high-colored urine. The intestinal mucous membrane was also of an intense dull-red color. There had been no diarrhœa or dysentery.

There are, if my information is correct, very few instances on record in which this fever has occasioned the disease of the kidneys here found. More or less congestion is very common, and suppression of urine is not rare; but the latter condition is generally dependent upon the existence of some form of renal lesion before the seizure with relapsing fever. Out of 14 cases in which I have made the autopsies, 3 have presented the symptom of total suppression of urine, but in this case alone was the disease producing that symptom of an acute character. In the others the renal disease was of long standing. On the other hand, in 18 fatal cases of which I have records, 17 pair of kidneys were decidedly morbid, and one only were normal, in respect to general appearances, excepting some congestion.

Microscopical examination shows the tubules to be generally densely packed with epithelium and blood, down to the apices of the pyramids. The vascular injection is also excessive. A portion of adipose tissue taken from the neighborhood of the pelvis exhibits the capillary supply of the parts in a manner which I have never seen equalled.

RUPTURE OF THE SPLEEN.

The second specimen is of even more interest, being the second on record from this cause, I believe, one other having been noted in Europe.

The patient from whom this was taken was 40 years of age, and mildly delirious, but without fever when admitted. The pupils and pulse were normal. On the 21st, rational at times; attributed his illness to drink.

22d. Delirium very active, but not violent; attendants constantly occupied in keeping him in bed.

On the following morning he died very quietly. The ward-master stated that he had neither fallen nor strained at stool, nor had undue force been used in controlling him. We cannot feel certain, however, that these statements are strictly correct.

Some urine removed at the autopsy was acid, sp. gr. 1012, albumen $\frac{1}{16}$, and contained numerous casts—hyaline, epithelial, and granular—many of them being greater than $\frac{1}{1000}$ inch in diameter.

VENEREAL DISEASE IN NEW MEXICO.—Dr. Andrew H. Smith, of N. Y., writes to the editor of the new *Indiana Journal of Medicine*, published in Indianapolis, as follows: Venereal disease is very rife in New Mexico—no class being exempt. Gonorrhœa is successfully treated by the natives with a decoction of an herb called *Malva*, but which is very different from the plant described by that name in works on materia medica.

The native inhabitants are a mixture of the Aztec with the Indian, the Spanish, and the negro. They present every shade of color, from that of the fairest Caucasian to the hue of the Hottentot.

The mean temperature at Fort Fillmore, for the 3 winter months, is 47°, for the spring months 64°, for the summer months 81°, and for the autumn months 64°.

Medical Items and News.

HOUSE STAFF OF BELLEVUE HOSPITAL FOR 1870.—*House Physicians*—Charles W. Bedeau, John J. Reid, W. M. Polk. *Senior Assistants*—S. D. Powell, B. D. Taylor, Walter Judson. *House Surgeons*—John G. Curtis, Charles McBurney, N. G. McMaster. *Senior Assistants*—J. D. Bryant, J. T. Synnott, W. O. Byrne. *Junior Assistants*—S. B. St. John, W. T. Alexander, T. K. Cruse, William D. Schuyler, F. G. Metcalf, M. G. Millikin.

ALUMNI ASSOCIATION OF BELLEVUE HOSPITAL MEDICAL COLLEGE.—At the recent annual meeting of this association the following officers were elected for the ensuing year:—*President*, Dr. James F. Ferguson, New York. *Vice-President*, Dr. Lucius B. Irish, Brooklyn, L. I. *Recording Secretary*, Dr. Reuben A. Vance, New York. *Corresponding Secretary*, Dr. F. H. Bosworth, New York. *Treasurer*, Dr. Henry Raphael, New York. *Executive Committee*—Drs. William T. Lusk, Leroy M. Yale, E. L. Mola, F. A. Castle, T. R. Pooley, Charles A. Searle, New York; George W. Terriberry, Paterson, N. J.; J. W. Pinkham, Montclair, N. J.; P. R. Cortelyon, Brooklyn, L. I.; Jos. Cushman, T. M. P. Cross, Bradford S. Thompson, New York; and Ira B. Read, Harlem, N. Y.

N. Y. STATE LUNATIC ASYLUM, UTICA.—The Twenty-seventh Annual Report of the managers of this flourishing institution, for the year 1869, exhibits the following facts:

	Men.	Women.	Total.
Number of patients at the commencement of the year	284	286	570
Received during the year	251	212	463
	535	498	1,033
Discharges, recovered	81	75	156
" improved	38	47	85
" unimproved	72	45	117
" not insane	7	1	8
Died	38	26	64
Whole number discharged	236	194	450
Remaining November 30, 1869	298	305	603

Of the 463 admissions, 133 were insane from two to twenty-eight years. Among those admitted there were 29 paretics, 10 epileptics, 2 imbeciles, and 1 paralytic. Twenty-seven were between sixty and eighty years of age. In the great majority of cases insanity was due to physical causes.

Dr. John P. Gray, the efficient superintendent, alludes to the visit of Dr. Henry D. Noyes, of New York, at the Asylum, and thanks the Professor for the instruction in the use of the ophthalmoscope. His brief clinic was most interesting, highly instructive and useful. The superintendent anticipates valuable results in diagnosis and prognosis from ophthalmoscopic investigations. In cases of paresis, embracing all stages of the disease, Prof. Noyes found in each case a lesion of the optic nerve and vessels characteristic of each stage of the disorder. Thus far all efforts to arrest the progress of paresis, except temporarily, have proved unavailing. Dr. Gray considers the relation of phthisis to brain disease one of the most interesting and important questions of research, and he has long thought the condition of the circulation a most important field of study, and believes the sphygmograph to be a valuable aid to physical diagnosis.

Rhode Island Medical Society.—The Fifty-ninth Annual Meeting of the Rhode Island Medical Society was held at the Franklin Society Rooms, on North Main street, Providence, Wednesday morning, June 8th, and was attended by a large number of the members of the Society from the city and other parts of the State.

The President, Dr. J. W. C. Ely, called the meeting to order at 10 o'clock, and the proceedings of the last annual meeting were read by the Secretary, Dr. Geo. E. Mason, and approved.

The annual reports of the several standing committees were presented, read, received, and ordered to be placed on file.

The Board of Censors having held their usual meeting previous to the organization of the annual meeting, Dr. Sylvanus Clapp, Secretary of the Board, read the annual report, which was received and ordered on file.

On recommendation of the Board the following named gentlemen were elected Fellows of the Society: Dr. Gustavus Radeke, Dr. Charles H. Leonard, Dr. Thomas Maher, Dr. Albert E. Ham, all of Providence. Dr. Alonzo Clark, of New York, was elected an honorary member.

The Treasurer, Dr. T. K. Newhall, presented his annual report, which was read, accepted, and ordered on file. Receipts, including cash in treasury at last annual meeting, $402.24. Expenditures, $410.59.

Dr. Otis Bullock, of Warren, delegate from this Society to the last meeting of the American Medical Association, held at Washington, D. C., in May, made a report to the Society of the proceedings of that Convention.

Dr. G. L. Collins proposed sundry amendments to the by-laws of the Society, which were read, and, on motion, were adopted.

The President, Dr. Ely, appointed the President and Secretary elect a committee to superintend the printing of a new and revised edition of the charter, by-laws, and a list of members of the Society.

Dr. S. A. Arnold, Secretary of the Trustees of the Fiske Fund, read the annual report of the Board, which was received and ordered on file. No prize was awarded for an essay received during the past year. The Trustees offer the following prizes for the year 1870:—

First—Ununited Fractures. The conditions under which they occur, and the most successful method of treatment.

Second—Hydrate of Chloral. Its physiological effects and therapeutical uses.

For the best dissertation on each or either of these subjects, the Trustees will pay the sum of one hundred dollars. Essays must be sent to the Secretary of the Fiske Fund Trustees, Dr. S. A. Arnold, on or before the first day of May, 1871.

The Society then proceeded to the annual election of its various officers by ballot, as required by the by-laws, and the following-named gentlemen were elected for the ensuing year, Dr. Ely having declined a re-election:—

President—Dr. George L. Collins, of Providence.

First Vice-President—Dr. Lloyd Morton, of Pawtucket.

Second Vice-President—Dr. Fenner H. Peckham, of Providence.

Recording Secretary—Dr. Clarence T. Gardner, of Providence.

Corresponding Secretary—Dr. Chas. W. Parsons, of Providence.

Treasurer—Dr. T. K. Newhall, of Providence.

Board of Censors—Drs. T. C. Dunn, Newport; Ariel Ballou, Woonsocket; Charles Fabyan, Providence; Otis Bullock, Warren; Sylvanus Clapp, Pawtucket; James Millar, North Providence; J. W. C. Ely, Providence.

Committee on Registration—Drs. E. M. Snow, E. T. Caswell, Providence; S. Clapp, Pawtucket; James H. Eldridge, East Greenwich; T. C. Dunn, Newport.

Committee on Publication—Drs. Geo. E. Mason, H. G. Miller, A. R. Becker, Providence.

Audit Committee—Drs. C. W. Parsons, Chas. Fabyan, Providence.

Dinner Committee—Drs. J. W. C. Ely, T. K. Newhall, Providence.

Dr. C. W. Parsons read a communication from a committee of the American Medical Association, on the subject of an annual medical registration, which was referred to a Special Committee, consisting of Drs. S. Clapp, E. T. Caswell, and Geo. P. Baker.

Dr. Geo. H. Church, of Wickford, being over 70 years of age and out of practice, was excused from further payment of the annual Society tax in accordance with the by-laws.

Dr. Geo. E. Mason, Secretary, read a well-written eulogistic obituary essay upon the late Hon. Henry Halsey Childs, M.D., of Pittsfield, Mass., prepared by Dr. S. Clapp, of Pawtucket, which was received, and, upon motion, referred to the Committee on Publications.

The Secretary also read a petition to Congress, praying that body to establish the rank of the medical officers of the United States Navy, which was signed by many of those present, and will be forwarded to the Senators from that State for presentation in Congress.

Dr. Robert Millar, of Providence, was appointed Orator, and Dr. A. R. Becker, Substitute, and Dr. Chas. W. Parsons, of Providence, Anniversary Chairman for the next annual meeting.

Drs. S. S. Keene and C. T. Gardner were appointed to prepare papers to present at the next quarterly meeting of the Society, which was appointed to be held in Woonsocket, on the third Wednesday in September.

Dr. Charles O'Leary was appointed Orator for the meeting in December.

Dr. Corliss, delegate from the Medical Society of the State of New York, was introduced and addressed the Society.

The annual dinner was served at the Aldrich House.

The Home for Incurables.—The third anniversary of the Home for Incurables, took place June 11, 1870, at West Farms, Westchester County, N. Y., where the Home is located. The anniversary exercises were held in the Reformed Dutch Church, of West Farms, and were opened by prayer by Rev. Mr. Chamberlain, of Morrisania. Dr. Rodman, the superintendent, then read the annual report, from which it appeared that the Home has at present thirty-five patients. The larger part of the incurable diseases represented are consumption, cancer, and paralysis. After reading the report the audience was addressed by Rev. Drs. Washburne, Vermilye, and Potter, of New York City. Dr. Washburne, who was one of the founders of the Home, alluded to the meeting in the house of Mr. Randolph, three years ago, when the scheme for founding the institution was first inaugurated.

Lunatic Asylums in the State of New York.—The establishment of a third general hospital has been ordered by the Legislature, and has been located at Buffalo. We now have the asylum at Utica for Central, the Hudson River Hospital at Poughkeepsie for Eastern, and the institution at Buffalo for Western New York, and the Willard Asylum for chronic insane.

HUDSON RIVER STATE HOSPITAL FOR THE INSANE.—From the Third Annual Report of the Managers of this Institution—now being erected at Poughkeepsie, N. Y.—we learn that $150,002.21, have been expended thus far on the two unfinished sections. When finished, a population of not less than eighteen hundred thousand persons will be entitled to its privileges, none of whom are more than eighty miles distant from its doors. Dr. J. M. Cleaveland, formerly of Utica, is the Superintendent.

HOSPITALS AND DISPENSARIES IN MANCHESTER, ENGLAND.—This English city, with a population of less than half a million of inhabitants, has sixteen hospitals and public dispensaries.

RESULTS OF SURGICAL OPERATIONS WITH AND WITHOUT ANÆSTHETICS.—Prof. Simontin, of Nantes, has performed 250 operations during the last 34 years. Of these the results in amputation and hernia are as follows: Amputation of the thigh without anæsthetics, 7, with 4 deaths, or 57 per cent.; with anæsthetics, 23, and 8 deaths, or 35 per cent. Amputations of the leg, 11, and 5 deaths, without anæsthetics, or 45 per cent.; and 14, with 3 deaths, or 21 per cent., with them. Strangulated hernia, 25 operations and 9 deaths (36 per cent.) without, and 10 operations with 1 death, or 10 per cent., with anæsthetics.—*Med. Times and Gazette.*

IMPORTANT REMEDIES.—Dr. C. Drysdale (*Med. Times and Gazette*) finds that the most valuable articles in the Pharmacopœia in the treatment of cases coming under his care in the North London Consumption Hospital, are the perchloride of iron, iodide of potassium in large doses, and cod-liver oil.

THE ADMINISTRATION OF CHLOROFORM IN THE RIGHT-ANGLE KNEE AND CHEST POSITION. — Dr. Nathan Bozeman, of New York (*Am. Jour. of Obstetrics*), endorses the knee and chest position in surgical operations of the female, which has been employed in Europe for more than half a century. He has had chloroform administered in this position more than fifty times during the last two and a half years, and without one untoward symptom.

In his improved knee and chest position every operation can be performed, in every case, with or without anæsthetics. He adds, in closing: "Fulfilling every indication, it leaves nothing to be desired."

THE HISTORY OF THE OPERATION OF THE CÆSAREAN SECTION.—According to Prof. T. Gaillard Thomas, M.D. New York (*Am. Jour. of Obstetrics*), this operation was practised among the Jews; it was a recognized operation during the Greek civilization, and during the Roman it received the name under which it is known to us. The first case in which it was resorted to in later times for removal of a child from the body of a living woman, which can be regarded as really authentic, dates back only to about the period of the discovery of this country, 1491.

BLEPHAROPLASTIC OPERATION.—Dr. Eve, St. Louis (*The Medical Archives*), reported to the St. Louis Medical Society an interesting case of blepharoplastic operation on the left eye, on a patient 22 years of age, for the relief of a cicatricial deformity following a burn received from falling into the fire during a fit when a child. The relief from the deformity was regarded as almost perfect.

INFANT MORTALITY.—In 1868, 203,129 children died in England under five years of age.

A PRECOCIOUS MOTHER.—The Registrar-General of England reports the case of a daughter of an Essex laborer who gave birth, in 1869, to a child before she was eleven years of age.

CASUALTIES IN JAVA.—During the year 1869, in Java, 183 men, 53 women, and 38 children were killed by tigers, 158 persons by crocodiles, and 22 by snakes.

This is nearly as bad as the mortality caused by horses driven by tipsy cabmen and careless butcher boys in the streets of this city and London.

THE CONVENTION OF MEDICAL SUPERINTENDENTS FOR THE INSANE.—This Convention was held this year in Hartford, Conn., and adjourned Saturday, June 18th. The next meeting will be held in Toronto on the first Tuesday in June, 1871.

SUBSTITUTE FOR WASHING SODA.—A German journal recommends laundresses to use hyposulphite of soda in place of common washing soda. It does not attack the fabric in any way, and at the same time exerts some bleaching action, which greatly improves the appearance of linen and calicoes.

PROGRESS OF MEDICINE.—The annual address before the Medical Society of the State of New York, on "Progress of Medicine," by Prof. James P. White, M.D., of Buffalo, President, on February 2d, 1870, has come to hand, and is well worth perusing. Those who have asserted that the profession is *non-progressive* will do well to carefully read this sound and practical address on the advancement made in medicine within the last forty years.

SIMS'S SPECULUM.—M. Schuppert, of New Orleans, La., affirms that the so-called Sims's speculum was invented by Metzlar, of Prague, in 1846.

THE BENEFITS OF A SEA VOYAGE.—A patient writes to the editor of *The Pacific Medical and Surgical Journal*, from the Sandwich Islands, commending the sea voyage to those afflicted with chronic diarrhœa. In his case, the voyage from San Francisco to these islands cured the chronic diarrhœa, which had resisted all treatment. He recommends the climate of the Sandwich Islands to invalids with diseases of the digestive system.

DECEASE OF AN ELECTRO-THERAPEUTICIAN.—Dr. Morpain, of Paris, so widely known for his researches in electro-therapeutics, died a few days ago. Remak's work was translated by this author.

NEW YORK ACADEMY OF MEDICINE.—At a recent meeting of the Academy, Bradford S. Thompson, M.D., was elected Resident Fellow.

SAN FRANCISCO MICROSCOPICAL SOCIETY.—This new society has elected the following corresponding members: Drs. J. W. Deems and Arthur M. Edwards, of New York.

A FAT MISS.—Ohio county, Indiana, boasts of a girl named Susie Ellenwood, æt. 12, who has attained the enormous weight of 282 pounds.

A SOUTHERN GIANT.—A man in Orange county Florida, is said to measure 9 feet 6 inches in length.

QUINIA IN SEPTIC AFFECTIONS.—One of the first contributions of recent times on the therapeutic powers of quinine in septic affections, was written by Gieseler.

THE IMPORTATION OF HEIFERS FOR VACCINATION PURPOSES.—Dr. Martin, of Boston, asked and received permission to import, free of duty, four heifers from France, for the purpose of obtaining virus for vaccine purposes, on the ground that virus from heifers in this country is impure.

IODINE SPRING.—A valuable iodine spring has lately been discovered near the city of San Francisco, Cali-

fornia. The *savants* of the golden city are engaged in the analysis of the water, which contains so much iodine that it gives without condensing a strong reaction when the proper test is applied.

California Pharmaceutical Society.—This flourishing society has received a gift of a collection of two thousand botanical specimens from Calaveras county, Cal. These were gathered and presented by Mr. T. J. Searle, now of the Sandwich Islands.

Pertussis.—From a work on "Diseases of Children," by Drs. J. Forsyth Meigs and William Pepper, of Phila., we glean the following, with reference to the management of pertussis: Alum is the favorite remedy; belladonna and sulphate of zinc, carbonate of potash and opium come next; but the favorite prescription is 1-24 of a grain of the extract of belladonna, and one grain of alum three times daily, to a child of three months.

The Spread of Cholera.—Dr. Matthews Duncan, of Edinburgh, states that the spread of this fatal disease was often traceable to the throwing out of the stools into back gardens and middens adjoining houses, their gaseous matters poisoning the atmosphere, and their fluids percolating into the wells, and so reaching the neighboring inhabitants.

A Quick Payment.—Hahnemann, the founder of homœopathy, on being consulted by an English peer, gave his patient a smell from a small vial and assured him he was cured. "What's the bill?" asked the astonished nobleman. "One thousand francs." The visitor pulled out a roll of bank-bills and held them under the doctor's nose, saying, "Only one smell; you are paid."—*Mich. University Med. Journal.*

The First Ligator of Arteries.—Although Ambrose Paré claimed the use of the ligature as his discovery, Galen, after using cold water and astringents, remarked, "he raised the bleeding vessel by means of the hook and secured it by a vinculum or ligature."

The Use of Forceps in Labor.—The *Philadelphia Reporter* copies from the *British Medical Journal* the following from Dr. Thomas Savage: "It seems remarkable that, until quite recently, so few practitioners should have advocated the more frequent use of forceps in midwifery, except in difficult cases such as the older writers describe. Dr. Steele says: 'The second stage of labor ceases to be actively progressive, excepting, of course, when contraction or distortion of the pelvis necessitates turning or craniotomy, or where the os uteri is only partially dilated and at the same time undilatable.' My own experience, though limited, is so decidedly in favor of this practice, that I have concluded to record it, and do so as follows: During five years I attended 807 cases, and used forceps 104 times. Of these 807 cases five were still-born, and one natural death occurred from puerperal fever, which was in no way traceable to the means used to accomplish delivery. In comparison with this record I give the statistics of the Royal Maternal Charity, as quoted by Dr. Ramsbotham, where out of 48,996 deliveries, forceps—long and short—were used 73 times, or once in 671.2 cases, and of these 73 applications 15 were stillborn, thereby showing that their use was not resorted to until the head had been for a long time subjected to successive pressure. In none of my cases have I found any ill effects afterwards, such as laceration of the soft parts, rupture of the perinæum, &c., and I cannot but believe more children would have been stillborn if instrumental aid had not been given. The occipito-posterior presentation appears to offer the most difficulty in effecting delivery, and Tyler Smith says that these cases should be slowly rotated during the process of extraction, so as to bring the vertex towards the pubic arch, and thus convert them into occipito-anterior presentations; a proceeding which to myself has seemed very easy in a diagram, but attended with some difficulty in practice."

The Heart's Labor.—The total daily work of the human heart is equal to 124,208 tons of 2,240 pounds each, lifted one foot. Prof. Haughton, of Dublin, states that if the heart should expend its entire force in lifting its own weight vertically, it could raise that weight 19,754 feet in an hour.—*Jour. of Chemistry.*

Torsion of Arteries.—Arrest of hemorrhage by torsion of arteries, is quite popular in Steevens' Hospital, Dublin; it has been resorted to in cases of amputation at the wrist, ankle, and leg, below the knee.

Herr Radienbacher.—This distinguished Professor of Chemistry in the University of Vienna was stricken down with apoplexy a few days ago, and died at the age of sixty. Since 1839, he had been connected with the University.

A Case of Spontaneous Ptyalism.—An aggravated case of this character is related by C. W. Knight, M.D., U. S. A., of Post Lampasas, Texas (*Med. and Surg. Reporter*), which was successfully treated by a saturated solution of chloride of sodium, and crystal of rock salt topically, and a tonic regimen.

He calls it spontaneous ptyalism after Dr. Thomas Watson, who gives, in his "Practice of Physic," that name to a similar train of symptoms.

N. Y. State Lunatic Asylum.—The whole number of patients admitted to this Asylum since its opening is 9,225; and of these 3,572 recovered, and 1,407 were discharged so far improved as to return to their usual duties.

Vaccination First Introduced into Hindostan.—Rev. J. A. Dubois, an English missionary, introduced vaccination into Hindostan in the year 1802. At first the natives imagined that the English wished to affix an indelible mark on certain persons; and all males so impressed were, when they grew up, to be forced into the military service, and the females to be concubines.

A Button in the Larynx Removed by Suction.—A case of accidental introduction of an ordinary shirt button into the larynx is reported by Dr. Rumbold, of St. Louis (*The Med. Archives*), and its removal by suction by means of an elastic tube armed with an exhausting apparatus.

Alcohol an Anæsthetic.—Dr. B. W. Richardson, of London, regards alcohol as strictly anæsthetic, and mentions the first published case of surgical operation under anæsthetic sleep, in 1839, by Dr. Collier, on a negro, who was rendered insensible by breathing the fumes of alcohol. The anæsthesia is too slow and prolonged for ordinary surgical operations.

Aneurism of the Mitral Valve.—At a meeting of the San Francisco Medical Society on the 12th of April, Dr. Edwin Bentley, Asst. Surg. U. S. A. (*Pacific Med. and Surg. Journal*), exhibited a pathological specimen of this rare affection, taken from a male patient, admitted into the San Francisco City Hospital, March 25, and died April 6.

Aneurism of the mitral valve is a rare disease, and was first pointed out and demonstrated by Dr. Thurman, in the "Medico-Chirurgical Transactions," vol. xiv.

Original Lectures.

LECTURES
ON
THE PALSIES
AND
KINDRED DISORDERS OF THE NERVOUS SYSTEM.

By MEREDITH CLYMER, M.D.

Lecture III.

PROGRESSIVE MYO-SCLEROSIC PALSY.

Definition—By whom first described—Duchenne's claims—The cases reported in Germany—Clinical History—Three Stages—Electric Exploration—Patho-anatomy—Histology—Nature and Causes—Differential Diagnosis—Duchenne's trocar—Prognosis—Treatment. (*Seven Illustrations.*)

I PROPOSE in this lecture to treat of an affection which has only quite lately been recognized and studied, and about which but little is generally known, namely, *progressive myo-sclerosic palsy*, called also *pseudo-hypertrophic paralysis*, and by the Germans *progressive muscle-hypertrophy*. Until recently it has been confounded with other forms of infantile palsy accompanied with structural changes in the affected muscles.

It may be defined as a progressive disease of childhood, of successive stages, beginning with muscular weakness in the lower limbs, a characteristic wabbling gait and well marked anterior sacro-lumbar curvature; the paretic muscles, particularly the gastrocnemii, are after a while greatly increased in size, but in time become atrophied, and lose all motor power; no constant cerebral symptoms happen in the course of the disorder, and the general health continues good until the last stage; no lesion of the nervous centres has as yet been made out, and its anatomical character may be stated therefore as overgrowth of the interstitial muscular connective tissue and subsequent fibroid substitution, with consequent suppression of the proper sarcous or contractile element; in some instances there have been large fatty accumulations in the fibrillary interspaces, probably the result of regressive degeneration.

The first recorded case of this form of palsy which I can find is by Dr. Edward Meryon, who on the 9th December, 1851, read a paper before the Royal Medical and Chirurgical Society, in which he described the history of a child who, born healthy and well-proportioned, walked late, and then clumsily until eight years of age, when his walking gradually worsened, and at eleven he could not walk at all, and could scarcely stand. At about twelve years old the power of the muscles of the upper extremities began to lessen also, notwithstanding that the muscular mass of the body and limbs did not appear to have diminished; on the contrary, the child had grown well and had gained flesh. When fourteen he died of fever, and on examination the spinal cord was natural, but all the voluntary muscles were atrophied and soft; and although the muscular fibres appeared to exist, they were almost bloodless. Under the microscope the striped elementary fibres were found to be completely destroyed, the sarcous element being diffused, and in many places converted into oil-globules and granular matter. The changes were most advanced in the muscles of the abdomen and legs. Dr. Meryon likened the condition to the fatty disease of the heart described by Dr. Richard Quain. He further states that three brothers of this patient, born later, were similarly affected. And he mentions also that Dr. W. Bullar, of Southampton, had told him of two cases, which, from their clinical history and the post-mortem appearances in one of them, were probably like. The fact of "the calves being larger than natural," and having during the progress of the disease become permanently contracted, is particularly noted. Dr. Meryon adds that two other similar cases had come under his notice during that year. In the thirty-seventh volume of the Medico-Chirurgical Transactions, 1854, Dr. T. King Chambers reports a kindred case, in connection with mollities ossium; a microscopic examination of a portion of the rectus femoris muscle showed that it had become "a mere congeries of fat-vesicles, the interspaces between which were filled up with globular granular corpuscles."

I have been thus particular in mentioning these cases of the English physicians, and of whose identity with the disease I am about to describe I have no doubt, because Dr. Duchenne (de Boulogne) insists that "the glory of this discovery belongs unquestionably alone to France," or rather to himself, though his first case was in 1858, and his first published account of it in 1861 (*Electrisation Localisée*, 2ième ed. 1861.) This eminent physician is possessed, like Lamartine, with the conviction that when a new idea is to be communicated to the world it is always put first into the head of a Frenchman. Still much credit is due to Dr. Duchenne for his intelligent study of this affection, and his individualization of it as a separate form of the muscular palsies, in his admirable papers in the *Archives Générales*, in 1868. He unquestionably set it before the profession as a distinct disease, and directed attention specially to it. He gives in detail twelve cases which had come under his observation, with mention of others; and you will see in the course of this lecture how much we are indebted to him for his clear interpretation and valuation of its clinical history.

From 1862 to the present time cases have been published by Jaksch, Berend, Eulenberg and Cohnheim, Wernich, Oppolzer and Stopella, Griesinger, Heller, Seidel, Leyden, Wagner, Benedikt, and Lutz, in Germany; Spielman and Schutzenberger, and Bergéron, in France; and Meryon (1866), Hillier, W. Adams, Foster, and Russell, in England. The first systematic article on the subject in English I published in 1868, in an appendix to the second American edition of Dr. Aitkin's "Science and Practice of Medicine."

There are three stages of this disorder: (1.) That of paresis, shown by weakness of the lower extremities, side-to-side balancing in walking, the legs being wide apart, with a marked anterior arching in the sacro-lumbar region (lordosis) in standing and walking, with persistent rigid flexion, or clawing, of the toes. (2.) Increased volume, a hypermegalia, of the muscles of the legs, particularly of the muscles of the calves, and of the glutei, and of the back, which are large, elastic, and very firm. This stage is generally for a while stationary, and may last for several years. (3.) Then generalization and progressive aggravation of the palsy, followed quickly by muscular atrophy, the patient becoming bedridden, and dying either from some intercurrent disorder, or from systemic deterioration and exhaustion.

Let us briefly examine in detail these several stages. 1. The initial symptom is the muscular weakness in the legs. There are no necessary prodromic phenomena. No pain in the limbs is complained of by the little patients; the onset is in the midst of apparent health. In two only of the recorded cases had there

been previous convulsion-spells, but the connection between them and the disease does not appear. The child becomes easily tired, walks clumsily, or topples over readily, cries or begs to be carried, and is unwilling to walk. If quite young, the paretic state of the limbs may be overlooked, until the backwardness in walking is noticed. But in these cases it will be found that it does not kick and move about its legs naturally and actively. When the limbs are examined they seem well made and firm. In children who have already walked, the peculiar, characteristic wabbling gait often first attracts notice. This side-to-side balancing is necessary to enable the child to keep its equilibrium when in motion. The legs are widely apart, and the little patient waddles like a gobbler. In spite of ridicule or punishment this gait is necessarily persisted in, and daily becomes more emphasized as the weakness of the back and buttocks increases. Now if you examine the spine when the child is standing or walking, you will discover a sacro-lumbar curvature, varying in degree from a slight bending forward to a deep saddleback (Fig. 1).

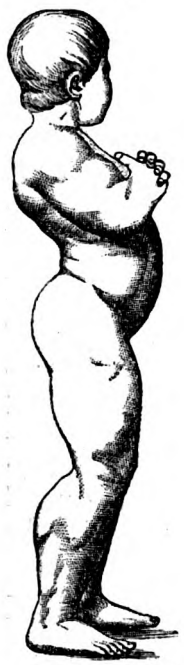

Fig. 1. Side view of a boy, æt. 10, with myosclerosic palsy, showing sacro-lumbar curvature in walking and standing. (Duchenne.)

Fig. 2. A side view of a boy, æt. 7, with myosclerosic palsy, showing saddleback, and fall of plumb-line touching the dorsal spinous processes and falling outside of sacrum. (Duchenne.)

This curve of the vertebral column is the result of weakness of the extensor muscles. It is caused by the effort to keep the upright position, the line of gravity being maintained by the support given by the abdominal muscles. This Dr. Duchenne proved by making the patient stand erect, at the same time preventing the spinal bend; the trunk directly fell forward, and the hands were placed at once on the thighs and legs to hinder falling over. In the photograph I now show you (Fig. 2) you will see that the plumb-line A, which touches the spinous processes of the dorsal vertebræ, falls far outside of the sacrum. In cases where a deep sacro-lumbar curvature exists from weakness of the abdominal muscles, a plumb-line similarly applied falls over the centre of the sacrum. In some cases quite early in the first stage there is a slight pointing of the foot; generally this happens later, and it increases until the heel is drawn up and there is complete equinism (equino-valgus) of both feet. The plantar arch is more or less effaced, the position of the first phalanges to the metatarsal bones is unnatural, whilst the toes are permanently bent, and look like claws. Flexion of the foot is difficult or nil, whilst extension is easy and often forcible. This condition is due to the damage of the contractile tissue of the flexors.

2. The second stage is marked by the striking feature of this curious disease, namely, the apparent bilateral hypertrophy of certain muscles, which appears at a variable period after weakness of the lower limbs, usually from a few months to one year. Any of the muscles may become affected, but it generally begins in the gastrocnemii, and in the muscles of the thigh, and in the glutei; then the muscles of the back and belly, particularly the oblique abdominal, the biceps, deltoid, and sometimes the muscles of the face, especially the temporal. In Eulenberg's case, where the disease began at five years of age, this muscular hypermegalia came on at ten in the muscles of the thigh, those of the leg were next invaded, and finally the triceps brachialis. In Oppolzer's, reported by Stofella, a considerable period elapsed before the muscular development was apparent; when the gastrocnemii contracted they formed two masses nearly the size of a man's fist. Though in most instances the apparent hypertrophy is limited to the muscles already mentioned, it may extend to others. In Bergéron's case it involved the muscles of the face, particularly the temporal, those of both extremities, and of the trunk, except the great dorsal, pectoral, and the sterno-mastoid of the neck. The boy, when ten years old, had the appearance of an exaggerated Farnesian Hercules, weighing about eighty pounds.

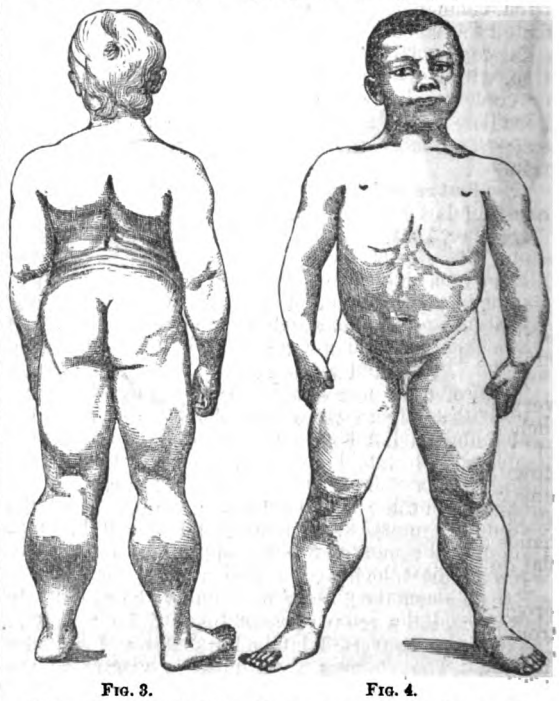

Fig. 3. Fig. 4.

This photograph (Fig. 3) represents the back view

of a boy, ten years old, with this disorder, and exhibits the general muscular enlargement, giving to him the appearance of a young athlete. Here is another (Fig. 4), a front view of the same patient, in which you see that though nearly all the muscles of the body are apparently hypertrophied, the pectorals are atrophied. It gives, too, a good representation of the position of the legs in standing and walking. Both are from Dr. Duchenne's photographs.

In one case, Dr. Duchenne thought that the paresis and hypertrophy were coincident, but this seems doubtful. Whilst some of the muscles are thus hypermegalic, others may be attenuated; thus the lower limbs may be over-sized and the upper positively emaciated.

In this photograph (Fig. 5) all the muscles of the lower extremities, together with the glutei and lumbar, are of enormous size, and contrast markedly with those of the disproportionately sized arms. In the other one (Fig. 6) the gastrocnemii are alone enlarged in the lower extremities, with the glutei and lumbar, and the arms look very thin.

FIG. 5.

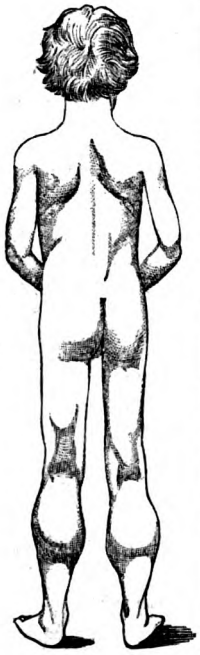

FIG. 6.

When we come to describe the anatomical characters of this affection, the structural condition of the enlarged muscles will be studied and illustrated.

In the advanced stages the erect position becomes very difficult; the feet are widely separated, say to ten inches; and the patient stands and walks on the ball of the toes; even when supported he cannot bring down his heels to the ground. The equilibrium is so unstable that the slightest push upsets him, and he falls all of a heap. The progression is often slowly on the hands and knees, the palms, like a forepaw, being placed flat on the ground.

3. I have placed myo-sclerosic palsy amongst the progressive disorders, and we have seen the functional troubles of the first stage increase during the second, or period of full development, but the fastigium being reached, there is a pause, which may last for several years—two, three, or even many more; the symptoms are stationary, they neither worsen nor get better. Sudden and rapid aggravation of some of the existing troubles then happens, and new ones set in; the paralysis now extends to the upper extremities, if it has hitherto been limited to the lower, the use of the arms is lost, the muscles generally become atrophied, there is great emaciation, and the helpless patient is nailed to his couch or bed; finally the health, hitherto good, breaks, and some intercurrent disease, as bronchitis, or pneumonia, or tubercle, kills before adult age is reached, or death follows from general debility and exhaustion.

There do not seem to be any marked or uniform brain-troubles throughout the course of the disorder. Most of the patients are dull, heavy, indolent, and apathetic, and the intellect is often sluggish and the speech hesitating; but this is by no means constant. One of Duchenne's cases was an idiot, another nearly so. Ophthalmoscopic examination has so far been negative. The body-heat and the circulation are unaltered; even the temperature of the affected limbs and their capillary circulation being unaffected. Several exceptions, however, have been reported: one by Griesinger, in a lad thirteen years old, whose limbs, especially the lower ones, had a rosy tint, with increased temperature; and when these parts were uncovered to the air and exposed, after a little while they became more or less blue and marbled, with decided loss of heat. This condition came on spontaneously, or when making an effort to move the limbs. In a man of twenty, attacked two years previously, the right side of the face had more color than the left, with more abundant sweat secretion, and dilatation of the right pupil. Pressure on the right cervico-sympathetic region was painful, and all these symptoms disappeared after galvanization of the nerve. In Dr. Foster's case the integument of the lower extremities was remarkably mottled, patches of purplish color alternating with white. In one of Dr. Russell's cases it was the same.

Pain in the limbs or in other parts of the body is rarely complained of, even during passive motion of the affected extremities, but occasionally there is a feeling of considerable tension produced in the antagonist muscles in any attempt at motion; for example, in trying to forcibly bend the leg the flexors of the knee-joint may be thrown into a state of tonic spasm, causing some degree of pain. Neither hyperæsthesia nor anæsthesia, deep-seated or cutaneous, has been remarked. The functions of the bladder and rectum are usually intact, unless towards the terminal period.

The effects of electric exploration on muscular contractility and irritability would seem to vary with the kind of current used. With the exception of Eulenberg's case, muscular contractility was always lessened when tested by faradism, and that not only in the enlarged muscles, but in those whose size remained unaffected. Electro-muscular sensibility is uncertain; it may be natural or lessened, or it may vary at different times in the same case. In Wagner's case, where the constant current was alone employed, muscular irritability and contractility were unaffected. Benedikt and Stofella made comparative examinations with both the faradic and continuous currents; faradism showed diminution of electro-muscular contractility, whilst galvanism in the course of the nerves of the muscles from the spine was followed by either natural or exaggerated contractions.

With regard to the *patho-anatomy* of myo-sclerosic palsy, in the only post-mortem examination that I know of where the brain and cord were examined microscopically by skilled observers—that of Eulenberg and Cohnheim (1865)—no coarse change was found.

With respect to the muscle-tissue, we have seen what was its condition in Dr. Meryon's cases. In Griesinger's case, Prof. Billroth removed during life a small piece of the left deltoid, which was paralysed and apparently hypertrophied. The primitive fasciculi were whole, but were shoved apart by a large quantity of adipose material; there was no trace of fatty degeneration in the fibre. Wernich took a small piece of the gastrocnemius from a lad of eleven years with the disease, and, examining it microscopically, saw nothing structurally anormal, but large masses of fat were deposited between the fasciculi. Heller found the fatty vesicles in such quantity in the fibrillar interstices that he proposed to call the disease lipomatosa luxurians. In Eulenberg and Cohnheim's case the fibres in some of the damaged muscles were much atrophied, reduced a fifth or sixth of their natural size, and with little masses which seemed to be empty sarcolemmata; throughout there was fatty matter, which in some places could not be distinguished from subcutaneous adipose tissue. In all of Dr. Duchenne's cases in which the muscles, whether hypertrophied or not, were examined, either during life or after death, there was considerable overgrowth of the interstitial connective tissue or gangue, along with development of wavy fibrillar tissue, or what is histologically now known as fibroid sub-titution, or sclerosis. In the second stage the muscles were very pale, the transverse striation was either very fine, or broken, or had disappeared either in part or wholly; the longitudinal markings were very delicate, or wanting. The sarcolemma seemed to contain oil globules, which really came from the interstitial connective tissue, and were not the result of regressive degeneration of the muscular fibres, being essentially different from the changes in fatty muscular degeneration. In one of Duchenne's cases, which Dr. Lockhart Clarke examined, there were "large collections of adipose tissue between the bundles of muscular fibres." He did not remark this in the other specimens of Dr. Duchenne's collection.

To examine the muscular structure, Dr. Duchenne first soaks the specimen in a weak solution of chromic acid—the one two-hundredth. Cohnheim uses three-fourths part of a volume of concentrated hydrochloric acid in ninety per cent. of alcohol and ten per cent. of water, in which he gently boils the muscle for five or six hours.

The *pathogeny* of myo-sclerosic palsy is yet quite obscure. Duchenne writes: The formative irritation which produces the abundant nuclear proliferation and other changes in the interstitial connective tissue of the muscles, seems to be the probable cause of the paresis. But how explain the change in the connective tissue? This is still an unsolved problem. He inclines to the belief that the sympathetic system is at fault; but it does not appear that it has as yet been examined. Benedikt, remarking on the effect of the galvanic current when applied centrifugally, already alluded to, says, this single fact is a powerful reason to admit that the initial trouble is one of innervation; but he makes no attempt to localize it. It is true that the examinations that have been made of the brain and cord in this disorder have failed to show any appreciable lesion of these organs. We are, however, but yet illy prepared to positively assert the non-existence of tissue-changes in the central organs of the nervous system. We are gaining knowledge every day in this direction, and much remains to be done. The recent investigations of Charcot and others, in France, showing the connection between lesions of the anterior grey matter of the cord and nutritional tissue-errors, particularly in progressive muscular atrophy, point very decidedly to the possibility of our being able, at no distant day perhaps, to demonstrate that, in the disorder we are studying, in which the kinship is evidently near, the primary mischief is developed in some district of the gray matter of the spinal cord.

This affection is regarded by Duchenne and most of the German observers as one exclusively of childhood; but Benedikt and Grotjan report a case in a youth of twenty, who was attacked at eighteen years of age.* Duchenne indeed says that in an experience of twenty years, during which his attention has been greatly directed to this class of diseases, he has never seen any analogous disorder in the adult. In many of the cases the paretic symptoms were manifest soon after birth, and were first noticed when the child began to walk. Duchenne, Heller, and Griesinger record cases where the onset happened at five years of age, Wernich and Heller at eleven, Duchenne one at thirteen, and Heller one at sixteen. Males would seem much more liable to it than females: of Duchenne's twelve cases eleven were boys. The influence of heredity is unquestionable; Dr. Meryon reporting four cases in one family, and two cases each in two other families; Dr. Wernich mentions two brothers who suffered from it; Heller records four cases in one family; and Seidel three. Lutz tells us of two sisters, an uncle and aunt, both on the mother's side, and a daughter by the first marriage of the mother, all affected with the disease. One of Dr. Russell's cases was the third boy in a family of eight similarly affected; and another the second. The seizure in a large majority is in the midst of

* Since this lecture was in type I have read an interesting case of myo sclerosic palsy, occurring in an adult, aged 26, reported by Dr. D. Dyce Brown, of Aberdeen, in the *Edinburgh Medical Journal*, June, 1870. The man had been a gardener, and was a book-hawker at the time of his admission to the county prison; was quite healthy when he began to feel stiffish in walking, and had "like rheumatic pains" in the outside of his thighs; he complained too of pains in the lower part of the back. He continued to feel his walking difficult, and his legs were getting weak, but did not notice any muscular enlargement for about two months, when he thought his thighs began to look larger than natural. He did not sleep well, seemed heavy and stupid, but ate well, and his excretions were natural. Dr. Brown examined his thighs and found their girth increased, and the muscles felt firm, almost hard. Three weeks later the calves of the leg had become enlarged and hard. The unnatural size of both thighs and calves was now evident on casual inspection. The oblique abdominal muscles were also visibly enlarged. Two months later he began to complain of his arms feeling weaker, and that he was unable to do his task. The biceps of both arms were found enlarged, and rather firm, especially on flexion. The forearm was not increased in size, but rather the reverse, and the hands were thin and skinny, and were shut with difficulty, their grasp being very weak. When holding anything heavy, he could not help dropping it. He complained now, four months after seizure, of no pain in his thighs or legs, but of general weakness, inability to use his hands, with stiffness and difficulty of walking, which he did with a slow, waddling, side-to-side gait, and with the legs far apart. There was no pain or tenderness in any part of the spine, no anæsthesia, no headache, or other head symptoms. The skin was of normal color. The measurements of the limbs, taken six months after the onset, were:—

Girth of arm at middle of biceps, when extended,	10 inches
" " " flexed,	11¼ "
(The same in both limbs.)	
Girth of thighs opposite trochanter major,	23 "
" " at middle,	23 "
" " at lower third,	19 "
Girth of calf of right leg,	15¼ "
" " left leg,	15 "

Two months later the enlargement of the oblique abdominal muscles was more marked; the glutei began to be enlarged; and there was weakness of sight, particularly of the right eye. The muscles of the back seemed unaffected, and there was not the deep anterior spinal curvature. On ophthalmoscopic examination the state of the eyes was found as follows:—

Right eye.—S. = $\frac{1}{10}$. Retinal vessels small; pigment external to optic disc. Otherwise healthy.

Left eye.—S. = $\frac{1}{12}$. Vessels of retina small. Papillary edge of choroid showing pigment maceration. Color vision perfect.

During the time of his confinement his body-weight increased five pounds; weight on admission 157 lbs.; on discharge 162 lbs. At the time of the publication of the paper the disease was steadily progressive; there had apparently been no pause.

Jaccoud states that adult cases have occurred amongst the insane, but I have not been able to meet with any such reported.

health. In Heller's cases it seemed to follow closely on exposure to cold and dampness; in one of Duchenne's the palsy succeeded an attack of small-pox, and in another, convulsions preceded the onset. None of the subjects appear to have had rickets, except the case of Dr. T. K. Chambers to which I alluded in the beginning of this lecture.

The symptoms of the disorder, as I have endeavored to sketch them, would seem to be sufficiently distinctive to hinder any error of *diagnosis* by those who are practically acquainted with the several forms of the progressive muscular palsies in children. The physiognomy of the disease is distinct enough to secure its ready recognition. The peculiar swaying, straddling, unstable walk, the pointed toes, the deep lumbar curve, or saddleback, the pouter-pigeon chest and belly, the intent gaze, and the enlarged, hard muscles when stripped, form a picture which cannot well be misunderstood. A microscopic examination of the affected muscles should, however, always be made, and it can be readily done by an instrument devised by Dr. Duchenne in 1865, and which I here exhibit to you, and which he calls *emporte-pièce histologique* (Fig. 7). It is composed of a handle and two half-cylinders of steel, one of which is sharp-pointed with a shoulder, and the other is made to slide on the other by pushing forward a button on the handle. The fixed half-cylinder has a small cavity near its pointed end. The skin over the muscular tissue to be explored is drawn tense, and the trocar, held by the three last fingers and the thumb, the extremity of the index being so placed as to regulate the depth of the wound, is plunged open (*a*) perpendicularly into the muscle; the button is then pressed forward, which, forcing the movable half-cylinder against the shoulder (*b*), causes a small portion of muscle to be detached and caught in the cavity. The instrument is now withdrawn, the button pulled back, and the bit of suspected muscular tissue taken out for microscopical examination. The pain is slight if the little operation is adroitly done, and no ill consequences have been known to follow.

FIG. 7.

I can best and most briefly illustrate the *differential diagnosis* between progressive myo-sclerosic palsy and those affections with which it is most likely to be confounded, by these tabular statements which I have made out and condensed from Dr. Duchenne's memoir.

PROGRESSIVE FATTY MUSCULAR ATROPHY OF INFANCY.	PROGRESSIVE MYO-SCLEROSIC PARALYSIS.
1. Begins in the muscles of the face, particularly the orbicularis oris and zygomatic. After two or three years it invades the muscles of the trunk, and its course is the same as in the adult—from above downwards; affecting first the muscles of the upper extremities and of the body, and extending to those of the lower limbs later.	1. Begins, as a rule, in the lower limbs, whose muscular power is weakened; its course is from below upwards, the upper extremities and the muscles of the trunk becoming involved after a considerable interval of time.
2. The muscles atrophy partially and irregularly, one after another; muscular debility in a limb is not general, but limited to the affected muscle or muscles, and is in direct proportion to the degree of atrophy; the consequence of which is, the several partial muscular paralyses and the various deformities in the muscles of the trunk.	2. Muscular weakness from the outset affects a large body of muscles, connected with several joints; later some of the paretic muscles, and more rarely all of them, become apparently hypertrophied.
3. The muscular fibre undergoes granular or fatty degeneration, and interstitial fatty substitution.	3. The muscular interstitial tissue shows a remarkable proliferation of the elements of connective tissue, with abundant production of fibroid tissue, and more or less fat globules. Some striation of muscular fibre often exists.
4. Muscular motility is not abolished until after the tissue changes.	4. Muscular motility is lessened or abolished.

FATTY ATROPHIC PARALYSIS OF INFANCY.	PROGRESSIVE MYO-SCLEROSIC PARALYSIS.
1. Begins in a large majority of cases with febrile symptoms.	1. Apyrexia throughout the course of the disorder.
2. May be generalized, paraplegic, bilateral, or crossed, limited to one limb, or a portion of a limb at the outset. When all the muscles are completely paralyzed from the outset, those whose innervation is the least damaged soon recover their power, whilst the others become greatly atrophied, or their texture is changed in different degrees.	2. At the outset, paresis affects the muscles of the lower limbs and the extensors of the spine, and their power is weakened. At a later period the power of motion is totally lost.
3. In the first stage electro-muscular contractility is lessened or absent, although there may be no muscular tissue-change.	3. In the first stage electro-muscular contractility unimpaired (this is doubtful, and requires further observation to confirm it).
4. At an advanced stage the loss of motility is soon followed by atrophy, more or less rapid and complete, according to the degree of the nervous lesion.	4. Paresis is soon succeeded by a considerable increase in the size of a greater or less number of muscles.
5. At an advanced period the loss of voluntary and electro-muscular contractility, shows that the muscles, whose innervation has been damaged, have undergone serious tissue-changes.	5. In the third stage of this disorder, if the enlargement of the muscles has disappeared and the limbs seem atrophied, a microscopic examination of a portion of an affected muscle taken from the patient, shows that the primitive fibres have, generally, preserved their transverse striation, and that the proliferated connective tissue is mingled with fibroid substitution and fatty vesicles, in greater or less quantity.

With respect to *prognosis*, of immediate danger in the early stages of the disorder there is little risk. In most instances the course is a regular one, the patient dying in from two to five years from an acute intercurrent disease or from exhaustion. In some cases the duration is much longer. M. Duchenne's early cases all perished in this way; but recently he states that he has twice arrested the disease in the early stage, and the cure seemed permanent. He argues that if it were more frequently detected and treated at the outset, which, from the early paretic symptoms escaping notice on account of their slightness, but rarely happens, the prognosis might become quite favorable. This is probable, because at this stage the myo-sclerosic change and the centric lesion on which it depends, are most likely but little advanced. When the disease has once become generalized, the patient is surely condemned to incurable infirmity and early death. In Benedikt's case, however, the young man of twenty, I should mention that though the affection was of two years' duration, and most of the muscles of both extremities had the characteristic false hypertrophy, still, after treatment by galvanism, he improved so much as to be able to resume his trade of tinman.

And this naturally leads me in conclusion to speak of the *treatment*. Duchenne uses faradism localized, shampooing of the damaged muscles, and hydrotherapy. In the second stage these means proved only temporarily relieving, the disease resuming its course and going on to a fatal ending. He tried also ergot, strychnia, and iodide of potassium unsuccessfully.

Let me urge you in this, as in all chronic diseases of the nervous system involving nutritional changes, to put your trust rather in those means, regimenal and other, which improve the general health, and look upon all others as auxiliary. Give arsenic

in very minute doses for a long time, and short periods of rest, with the phosphates, and cod-liver oil; insist on nourishing food; and baths and hand-rubbing of the whole body. The paralyzed muscles should be electrized for five minutes at a time, three or four times a week. The constant current of low tension should be used in connection with faradism. It is possible that galvanization of the sympathetic may prove of service; at all events the trial is worth making.

Original Communications.

ANTERO-POSTERIOR SYMMETRY, WITH SPECIAL REFERENCE TO THE MUSCLES OF THE LIMBS.

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Article III.

FLEXION AND EXTENSION, HOW DETERMINED—"LONG" AND "SHORT" MUSCLES—TELEOLOGICAL VARIATION—MUSCLES OF SHOULDER AND HIP.

From what has preceded, and especially from the law enunciated, it is evident that corresponding muscles are to be sought upon antitypically correlated aspects of the limbs, and determined mainly by position and relation. Their size and shape are as nothing, and their function is a matter of only secondary consequence. For the same muscle may be developed in inverse ratio in different animals; a flexor may even become an extensor, and conversely, by slight variation in its attachments and line of traction.

Antitypically correlated are opposed sides of the limbs in longitudinal direction; and the same sides in transverse direction. Thus the front of the arm corresponds to the back of the thigh, the back of the forearm to the front of the leg, and conversely, etc. The outside (radial aspect) of the forearm corresponds to the outside (peroneal aspect) of the leg, etc.

In this investigation it becomes necessary to change certain obvious misnomers that anthropotomists have imposed upon muscles of the forearm. The so-called "extensors" of the wrist are really *flexors;* the so-called "flexors" are really *extensors.* This is demonstrable. Remembering the position* of the body already determined, the shoulder points forward, the hip backward. Then, "flexion" or bending of the humerus is the bringing of that bone in the opposite direction from that of the preceding segment (scapula), *i. e., backward;* flexion of the forearm is bending that segment in the opposite direction again, *i. e.*, forward. So, of course, "flexion" of the carpo-metacarp is bringing that segment once more in opposite direction, *i. e., backward.* Now the muscles that effect this lie upon the back of the forearm; they are those called extensors, but are obviously flexors.† The reader will, therefore, bear in mind that in speaking of wrist-muscles, my "*flexors*" are his "extensors," and conversely. No change is required in cases of the muscles that act upon the tarso-metatarse; that their actions have been correctly designated, is evident from the fact, that extensors come down upon the back, and flexors upon the front, of the leg, and are thus antitypically correlated with those of, respectively, the front and back of the forearm, after the required change in these last has been made.

Professor Wilder has determined and applied certain principles in respect of the attachments and action of muscles that are of some importance in the identification of homologies. This is the substance of what he says;* I would quote in full, were space less an object:—Each segment of a limb is primarily bent by two muscles or sets of muscles, the 'long' and 'short' flexors; is also straightened by opposing 'long' and 'short' extensors. Of both of these, the 'short' reaches over only two contiguous segments—from the segment of origin to the immediately succeeding segment of insertion; it can consequently act in but one way, *i. e.*, to produce simple flexion or extension. The 'long' flexor or extensor, on the other hand, reaches over three segments, arising from the next segment but one above the segment to be moved; besides primarily or 'directly' acting upon the latter, it secondarily or 'indirectly' acts upon its segment of origin to produce motion in the contrary direction. Thus a 'long' direct flexor of the forearm is an indirect extensor of the humerus. *Illustrations:—Brachialis anticus* is a short direct flexor cubiti; it only bends the elbow. *Biceps* is a long direct flexor cubiti; and is extensor humeri as well. *Gastrocnemii* are long direct extensores tarsi; indirect flexores cruris, from their femoral origins; etc. etc. Besides these primary groups there are others called 'accessory,' as will appear in the sequel. The manifold advantages of such an arrangement will be evident upon the close study that the importance of the subject warrants. I introduce it, however, not to show the advantages in question; but simply for the bearing that the general principle involved may have in some disputed cases of homology. Yet we must not lean upon it too heavily; had the author himself laid less stress here, some of his special determinations might have been differently made.

Morphologically speaking of the movements of limbs, all these may be reduced to flexion and extension. Adduction and abduction are evidently these motions in transverse instead of longitudinal direction. 'Circumduction' is a compound of the two, with one end of a segment fixed, the other swinging: 'rotation' is circumduction with a stationary axis.†

We must never lose sight of the fact, that muscles are constantly specialized in each group of animals, to enable them to accomplish the particular actions de-

* Horizontal, limbs dependent, slightly bent at each joint; forearm supine, palm downward and forward, fingers pointing backward, nails uppermost.

† "Flexion" of course means only *bending*, and extension *straightening;* a bent limb is shortened, and a straight one is therefore "extended." Morphologists give more definite meanings. Flexion with them is bending a segment in a direction opposite to that of the preceding segment; extension is the decrease of this bending to *nil*, or the carrying of it beyond a straight line. When, therefore, as happens in the forearm when this is bent at the elbow, and the hand further brought round toward the *front* of the forearm, and the fingers closed, *three* segments *appear to be* bent in the same direction; an extension (of the wrist) has really intervened: *q. e. d.*

* B. G. Wilder, "*On Morphology and Teleology, especially in the Limbs of Mammalia.*" Mem. Bost. Soc. Nat. Hist., I. (Nov., 1865).

† In the movement called *pronation* may be discerned the elements of all possible motion of limbs. To explain: Drop the left arm perpendicularly, with forearm supine, palm forward, thumb outside. Now pronation of the hand through the first quadrant (90°) of a circle is *adduction* of the thumb; further pronation is *extension*, the thumb being carried backward, with reference to the whole body. So far, we have had *circumduction*, through 180°. If now further pronation were possible, the next or third quadrant of the circle of circumduction would be *abduction* (carrying of thumb away from axis of body); and the fourth and last quadrant would be *flexion* (bringing the thumb forward with reference to the whole body). This would complete the circumducting circle, as when a whole arm swings in a circle and describes a *cone:* the thumb has regained its original position. In this, the forearm has been a right-angled triangle, with radius for hypothenuse, ulna for perpendicular, and diameter of wrist for base; it has generated a cone by revolution about its perpendicular. Now let the base be reduced to zero, and the above movements resolve into simple *rotation*, like that of head of the radius in the lesser sigmoid cavity. Such is the essential correlation of all movements of limbs as wholes, or of their individual segments similarly regarded.

signed. This specialization obscures morphology in different ways. It may add to, or subtract from, a given species, whole muscles or even groups of muscles; it almost always modifies size, shape, and function; *e. g.*, man has muscles that all other animals want, and wants some that most other animals have. Muscles may slide up and down a limb, as to their attachments (less frequently as to insertion than origin). Besides being thus dislocated, muscles may be dismembered, and appear as two when they are a morphological integer; and conversely; of both of which modifications man affords some signal instances. The detection of homologous muscles in different animals, even, say, of the mammalian series alone, is sometimes impossible, often very difficult; the attempt is always to be cautiously made. So, regarding muscles of the two extremities of the same animal (which are ideally identical) we cannot hope to trace unquestionable homologues all the way through. We shall do well, if we determine so many, that failure to identify the rest may fairly be attributed rather to defective vision of ours than to want of whereupon to exercise it. And if even one muscular homotype be determined beyond shadow of doubt, it would serve to uphold the doctrine we advocate. One such is demonstrable: the theorem involved may be thus enunciated:—

The humerus and femur being in a certain sense correlated, the triceps humeralis *and the* triceps femoralis *are in the same sense correlated.*

The foregoing appear to be the principal *præmonenda* required at this stage of the discussion.

The scapular arch of man is attached to the head and trunk by the sterno-clavicular articulation and nine muscles, viz.:—(1) pectoralis minor, (2) subclavius, (3) cleido-mastoideus, (4) omo-hyoideus, (5) levator anguli scapulæ, (6) serratus magnus, (7) trapezius, (8 and 9) rhomboidei. Both in number and distribution these are under special not general conditions, in provision for the unusual freedom of movement of the fore limb. Nos. (8 and 9) are clearly the same muscle; even in man the *rhomboideus minor* may be "wanting," or merged in the *rh. major;* in many animals there is never but one, forming a great plane underlying the trapezius from occiput downward. Comparative anatomy also shows that Nos. (5) and (6) are one morphological integer. Thus I find in a low marsupial (but one with muscles surprisingly human-like) that these form one continuous, broad, fan-shaped plane, extending unbroken from atlas to last 'true' rib, and thus over the whole side of the thorax as well as of the neck; arising by digitations from all the cervical ("transverse processes—posterior tubercles") and most of the dorsal ("ribs") pleurapophyses, converging to connect these with the apex of the narrow transverse scapula. A further reduction of the seven thus remaining is probably to be made, in the case of the pectoralis minor. This only goes from thorax to coracoid in higher mammals; in lower, it may be wanting, unless represented in one of the several subdivisions of the great pectoral, all of which go to the next segment (humerus); in birds, with three perfectly distinct pectorals, there is no such costo-coracoid connection; all the pectorals act upon the arm, not the scapular arch. On the other hand, the cleido-mastoideus, in man an offset of the sterno-cleido-mastoid, is a distinct muscle in brutes, when existing; and lower animals generally have one or more additional and very distinct lifters of the scapula towards the head, often resembling our omohyoid, but arising from the vertebral column.

Those hold a reasonable view, who refer the six or seven muscles above mentioned to those of the trunk rather than of the anterior extremity. When we remember that the shoulder-arch has virtually or potentially slipped from its morphological position at the occiput, to the thorax, we reason with our host in anticipating that it would retain at least muscular connection with the vertebra to which it appertains. Its muscles appear to belong to the intercostal or other of the vertebral series. Some of them bear out this view in a striking manner. Thus the subclavius is actually a pure intercostal; it is the interc. internus between the first rib and the clavicle. The omo-hyoid is an instructive example in point. It precisely and directly connects the corresponding parts of two contiguous cranial vertebræ (—hyoid bone and scapula; hæmal arches of, respectively, mes- and ep-encephalic vertebræ), and has no other discoverable *raison d'être;* it cannot work upon the shoulder to any notable extent, compared with the scapular muscles proper; its consentaneous action with its fellow does nothing that other hyoidean muscles do not, and there is no occasion for the hyoid to be forced to either side. And in some animals, as above stated, the scapula is further hung from the head by one or more ribbons that arise from certain processes of the atlas, and pass to acromion, or upper border of scapula. Cleido-mastoideus is cranial; so is trapezius; in many animals the rhomboideus is also. While the morphology of the muscles of the shoulder-girdle probably remains to be proven, the evidence in favor of the view here taken is weighty; and at present we certainly have no more reasonable conclusion at our disposal, than to consider them as trunk-muscles specialized for a particular purpose, according to a law that has eluded our grasp.

Although it is not proper to take any element of a conclusion we desire to reach as a premise in an argument, yet some might consider the condition of the proximate segment of the hind limb as affording corroborative testimony in the above case. However this may be, it is certain that muscles corresponding to these of the scapular arch do not exist in the pelvic. The latter is firmly and immovably attached to the spine by the sacro-iliac synchondrosis and one* muscle —*psoas parvus.* This is an inconsiderable muscle in man, inconstant, occasionally wanting on one or both sides; but in other mammals it may be larger, etc., than the one called *psoas magnus* that goes to the femur; and it is by no means to be ignored. It arises from the vertebral centra at junction of dorsal and lumbar series, and is inserted into the linea ilio-pectinea. There is nothing that it obviously corresponds to in the forelimb; nor could there be, owing to the conformation of the thorax. Its morphology is uncertain; though perhaps determinable, it still remains indeterminate.

There are six small muscles about the head of the thigh-bone, collectively known as "rotatores femoris." Of these, the "twins"—*gemellus superior et inferior*—are of course dependencies of the obturator upon the tendon of which they are situate; leaving four —*pyriformis*, two *obturatores* and *quadratus femoris.* There is good reason to doubt that these are all morphological integers. The quadratus, especially,

* Without taking into consideration, of course, the several abdominal and dorsal muscles that certainly belong to the trunk, and are only incidentally attached to the pelvis. The fact of there being here such unquestionably trunkal muscles is the one just alluded to as that strengthening the hypothesis that the various muscles of the scapular arch are really vertebral, teleologically specialized and devoted to the movements of the fore limb. The psoas parvus I suppose to be hidden among these latter. Similarly, genito-urinary and other muscles that arise directly from the pelvis, do not belong to that arch with reference to the limb that hangs from it; if they have any anterior homotypes, these are certain head-muscles; as sphincter ani=orbicularis oris, etc. Again, in tailed quadrupeds, caudal muscles arise from the pelvis or even the leg; these of course continue the trunkal series.

seems less one of this set, than a part of the adductorial group upon the inside of the thigh; it is an almost direct upward continuation of the adductor magnus. The three remaining muscles represent a 'long' (pyriformis) and two 'short' ones (obturatores) that are special additions to the posterior extremity, and have no correlatives, as far as known or even surmised, in the anterior. The proximal extremity of the humerus is, without calling in the aid of muscles corresponding to these, already perfectly supplied with rotators. They may indeed be ideally enwrapped in some of the scapulo-humeral muscles; but this is a supposition not colored by anything, so far as I know, that has yet been adduced. The *teres minor*, if really an integer, might answer for one or some of them; but such identification would be purely presumptive. The great development of the ischiatic hæmapophysis, compared with the rudimentary condition of the anterior one (coracoid), probably has something to do with the matter, and renders it unlikely that there should be anterior correlatives of the quadratus and obturatores; and from the conformation of the thorax, there is no way of escape for a muscle arising from dorsal centra, as the pyriformis does from sacral. In short, it may be said that identification of the *rotatores femoris* is not to be made at present.

In such difficulty in respect of the first muscles of the thigh encountered, we may as well next take up that one of the anterior extremity that offers the chief if not the only other obstacle, among the muscles acting upon proximal extremities of the humerus and femur. I refer to the largest and one of the most important muscles of the fore-limb—the *latissimus dorsi*. Anatomists differ in their views of its homotypy; while it almost certainly has some posterior correlative, yet this cannot be said to have been fixed. Wilder queries the muscle, without attempting to suggest a correspondent; "it seems," he says, "to have no posterior correlative" (*loc. cit.*, p. 31). It is to be observed in the first place, that this muscle is the long direct flexor of the humerus; for it draws that bone backward, and has vertebral origin, skipping the scapula, and thus arising from what is virtually the next segment but one above that acted upon. It also rotates the humerus so as to throw the elbow outwards. One of the femoral muscles executes the counterpart of these actions. The *psoas magnus* flexes the thigh, *i.e.*, anteduces it, and moreover so rotates it as to throw the knee outwards; it is likewise the 'long direct' flexor, arising from vertebræ, and skipping the ilium. The two muscles, besides being identical in these respects, are 'symmetrically disposed' in general direction; which is forward, outward, and downward in the one case; backward, outward, and downward in the other. There are, however, two serious objections to this identification. In the first place, the *psoas magnus* may be morphologically identical with the iliacus. Although the two are perfectly distinct in man and some other animals, or have at most a common trochanteric insertion, yet in others again they are to the physical eye the same, being extensively blended, having not very dissimilar origin, and identical insertion. The point remains open. The other is more serious, and is, I believe, the main difficulty. *Latissimus* is superficial, dorsad of vertebral centra, with origin from vertebral spines: *psoas** is profound, ventrad of vertebral centra, and arises therefrom. But no other identification of latissimus seems probable, whatever view be taken of the relations of the psoas to the iliacus. I rest for the present upon the above presumptive evidence.

If we have not yet arrived at anything as satisfactory as could be desired, it must be remembered that at the outset difficulties are more numerous and formidable than elsewhere, in strict accordance with the principle already laid down, that specialization involves obscurity in direct ratio. At the shoulder and hip we have inverse muscular development, in provision for the diametrically opposed conditions of mobility and stability. We shall find that the way grows smoother as we advance upon the limbs from these points of departure.

* Prof. Wilder's reference (*loc. cit.*, table on p. 32) of the psoas magnus to the *supra-spinatus* is certainly a mistake, for it is not an "accessory short extensor" femoris, as implied in such identification, but the reverse. My esteemed correspondent himself corrects the error which is seen by the following extract from a letter received, to be merely an inadvertent misprint. " * * Your question shows me an error that I never saw before. Psoas magnus and glutæus medius should change places in the table, according to the statement upon the preceding page." This change brings psoas magnus opposite *infra-spinatus*, as accessory short flexor femoris; regarding which view, see my next paper.

LIGATION OF ART. ILIAC. EXTERN. FOR FEMORAL ANEURISM,

A YEAR AFTER A SIMILAR OPERATION ON THE RIGHT SIDE.

DEATH FROM SECONDARY HEMORRHAGE ON TWENTIETH DAY.

By C. C. TERRY, M.D.,

NEW YORK,

Being the report of a specimen presented to the N. Y. Pathological Society, June 8, 1870.

J. H. Hatton, about thirty years of age, was successfully treated for right femoral aneurism by ligation of the external iliac art. in January, 1869. The ligature came away on the twenty-third day, and he was about in two months. The temperature of the limb was not perceptibly affected by the operation.

Soon after commencing to go about, he observed a painful swelling in the left groin, which, gradually increasing in size and inconvenience, was presently recognized as an aneurism of the left femoral.

When examined in May, 1870, there was a pulsating, elastic tumor, the size of an egg, tapering upward under the crural arch and downward in Scarpa's space. No bruit heard. Pressure upon this fusiform tumor diminished its size, and the force of the pulsation in the distal vessels; but increased the tension in the aneurismal wall, and the pains of which he constantly complained in the loin and down the limb. The success of the former operation enabled him to anticipate another with great cheerfulness; but, before making the ligation, we decided to invite Dr. Guleke to try electrolysis in the sac.

May 13, 2 P.M. Right popliteal space, 98° F.; left popl., 96°; axilla, 98¼°; pulse, 72 (excited); respirations, 24. His normal pulse is 60–65.

2.10 P.M. Chloroform.

2.20. Anæsthesia; right popliteal, 98°; left popliteal, 95½°; axilla, 98½°; pulse, 68.

2.32. Right popl., 98°; left popl., 95½°; axilla, 98½°; pulse, 68; positive needle thrust into anterior aspect of aneurismal tumor, negative pole applied to surface of opposite thigh. The test-decomposition had been readily produced the instant before closing the current.

2.45. Left popl., 94°, needle withdrawn. Tumor smaller, firmer, less elastic; pulsation less heaving. Pulsation feebler in popliteal and tibial arteries, and limb tangibly cooler. Several drops of red blood followed the withdrawal of the needle.

2.50. Needle reintroduced at another point and kept in ten minutes.

9 P.M. No perceptible change in the tumor, but more pulsation in the distal vessels and limb—warmer; right popl., 98°; left popl. 98°; axilla, 98½°.

May 14. A singular effect of the needle has been the almost abolition of the former lumbar and crural pain, so that now he speaks only of an occasional sharp pain in the groin.

May 15. Pulsation of distal vessels as before operation, but the aneurismal tumor still somewhat smaller and harder than before the use of the needle.

May 16. Positive needle reintroduced at a new place; the negative pole being applied on the opposite thigh. After thirty-nine minutes, during which the struggling and groaning, even while anæsthesia of the conjunctivæ was marked, indicated much suffering, nothing was accomplished beyond a zone of redness around the needle, and several small blisters where the negative pole had rested, and the external iliac was ligated just below where crossed by the circumflex veins. Pulsation beyond the ligature ceased at once. Some hours afterward a slight fluctuation could be felt in the sac; but no distinct pulsation recurred in the distal vessels, nor was the temperature at any time notably affected.

The wound commenced discharging, on the fourth day, a small quantity of opaque fluid; it was dressed with a solution of carbolic acid; the sac shrank but little, yet became harder; and everything seemed going on to our satisfaction, until a slight oozing of dark blood appeared at the wound on the fourteenth day. Next day Dr. Guleke saw him in my absence, and considered the hemorrhage superficial and trivial. Ice was applied, and the patient kept as still as his uneasy disposition would permit, but the bleeding recurred in small quantities occasionally, mixed with the discharge, until a considerable bleeding on the nineteenth was followed by a sudden and fatal hemorrhage on the twentieth day.

Secondary ligations in the iliac region have discouraged many surgeons. In this case there was suspicion of atheroma, and Dr. Hamilton had advised that it was quite as well for the patient to take the certainty of the present hemorrhage as to wait a few days longer for another. Still one feels a natural desire to improve even the smallest chance of success, and after the bleeding of the nineteenth day had been checked, I was ready to religate at the first warning.

Sectio cadaveris four hours after death. Surface and mucous tissues pale. From the wound extruded a gelatinous mass of blood-coagulum continuous with a mass which lay upon the divided vessel, and had distended the meshes of the sub-peritoneal connective tissue into a large cavity.

The ligature had cut clean through the vessel, leaving two gaping mouths. Below, the vessel was pervious to the sac; above, its lumen was partially occluded by a worm-like fibrinous cord, which commenced at the giving off of the internal iliac, and clung to the wall of the external down to near the place of ligation.

The divided extremities of the vessel had retracted and been pushed asunder, so that their open mouths lay nearly a finger's breadth apart. Many atheromatous patches were visible in the walls of the vessel, both above and below the ligation.

The sac was two-thirds filled by a pretty firm, striated coagulum adherent to the anterior and lateral walls. In the anterior wall a small eschar was being formed at the site of the last needle-puncture.

The walls of the sac were thin; the superficial femoral vessels obliterated; the profunda branch as large as the femoral above it.

The nerve on one side and the vein on the other were intimately adherent to the sac, which itself was abnormally adherent to the posterior wall of the crural canal. After the severance of the vessel by the ligature some blood may have reflowed from the sac to the wound—most directly from above. How much the internal epigastric contributed by its anastomosis with the mammary, the unavoidable haste of the autopsy prevented my ascertaining. At all events, the vessel was quite large.

On the right side the cutaneous cicatrix sent down a thin plane of cicatricial tissue which reached the pelvic aponeurosis, thickening to include the ligated portion of the external iliac just below the internal iliac. Thence down to the flattened fibrous mass which represented the former right aneurismal sac, the vessel was a small impervious cord. The femoral became pervious just below the sac, and immediately gave off a profunda branch larger than itself. The vein adhered closely to the sac; the nerve was loosely attached.

For neither aneurism was there any history of traumatism. Possibly atheroma was the principal factor of both, of the fatal result.

42 WEST 24TH ST.

Progress of Medical Science.

CONTRA-INDICATIONS TO THE EMPLOYMENT OF CHLORAL.—The late Dr. J. Y. Simpson (*Medical Times and Gazette*), in his "Therapeutic Notes on Chloral," remarked as follows: "I am not aware of any special contra-indications to the employment of chloral when used for somniferous purposes. Even in head and chest affections, when I should have been chary of having recourse to opium as an hypnotic, I have employed chloral with perfect success. The contra-indications to opium offered by a tendency to constipation, etc., do not exist against chloral."

THE REMOVAL OF CYSTIC TUMORS FROM THE EYELIDS.—Julien J. Chisolm, M.D., Prof. of Op. Surgery, and Clin. Prof. of Eye and Ear Diseases in the University of Maryland (*The Baltimore Med. Jour.*), describes his modification in the use of the nitrate of silver that he has found so effective in the treatment of sebaceous cysts of the lid, and which has enabled him to discard for many years the tedious, painful, and sometimes dangerous cutting out of such tumors. If the tumor be a sebaceous cyst, located between the upper portion of the tarsal cartilage and the skin, a Desmarres ring forceps is used as a clamp upon the lid, to shield the ball of the eye from injury, to fix the tumor, and prevent annoying oozing of blood. Under this ring pressure a small opening is made into the cyst, through which its contents are squeezed out. The end of a small silver probe dipped in nitric acid, is then passed into the cavity, is made to pass over the epithelial lining surface, and is withdrawn. Usually, in its passage into the cavity of the tumor, it cauterizes sufficiently the lips of the incision to prevent any oozing of blood when the clamp forceps is removed. When the cyst is formed by the closure of a meibomian duct, the better plan is to evert the lid and make the puncture from the conjunctival surface, the caustic being applied as directed. The advantage gained by this modification is in the more certain, thorough, and yet restricted application of the caustic, confining its cauterizing influences only to those

portions in which action is desired. The results are in every case satisfactory—no after-treatment is needed.

THE CAUSE OF SUMMER CHOLERA.—C. F. Buckley, M.D., of San Francisco, Cal. (*California Medical Gazette*), in a recent paper before the San Francisco Medical Society, after dividing simple diarrhœa into six different varieties, adds a seventh, viz.: Summer Cholera. He rejects the idea that fruit is the general cause of summer cholera, and is inclined to think it is due to an undue elevation of temperature; he also believes the affection is merely a modification, in a milder degree, of insolation or sunstroke. With undue elevation of temperature in the first place, the branches of the hepatic artery become expanded, causing more or less obstruction to the portal circulation; secondly, the smaller branches of the mesenteric arteries enlarge, causing more or less obstruction in the villous circulation. It is quite clear that a continuation of both causes will produce very extensive congestion of the intestinal capillary circulation, and so leads ultimately to diarrhœa.

In concluding, he advocates the "castor-oil treatment," which, in Asiatic cholera, yielded more favorable results in the vast majority of cases, in the institution with which he was connected, than any other remedy. The castor-oil should be combined with mucilage and chloric ether.

He has never tried cooling draughts, but intends to do so at the earliest opportunity.

THE FORMATION OF FUNGI IN DIPHTHERIA.—According to Hüter (Virchow's Archive), Letzerich has proved that the commencement of diphtheria is a putrid state of the tissues through the formation of a low grade of fungi.

FORCED FLEXION AS A MEANS OF ARRESTING ARTERIAL HEMORRHAGE.—Dr. G. Adelmann, Professor of Surgery in Dorpat, recently published nine cases occurring in the extremities, in which forced flexion was adopted, and the hemorrhage arrested without ligation. To insure forced flexion, a plaster-of-Paris bandage is preferable in a long transportation.

THE THERAPEUTIC USES OF CHLORAL.—M. M. Pallen, M.D. St. Louis, Mo. (*The St. Louis Med. and Surg. Journal*), coincides with M. Demarquay that Dr. Liebreich's assertion "that chloral is decomposed in the blood, and that the chloroform resulting from this decomposition produces anæsthesia," is not the correct view. If chloral acts as an hypnotic and as a hyperæsthetic, it cannot be *totally* converted into chloroform. There is no doubt in his mind that chloroform is produced during the action of the chloral, but the chloroform arises chiefly by oxidation in the lungs. Dr. P. coincides with those who think that it is an hypnotic, and valuable as such an agent where opium cannot be used. He has used it extensively in monomania, endometritis, and puerperal convulsions, to procure sleep; in some instances in doses as high as a drachm; to children in doses from six to twenty grains, according to age.

It is applicable in that form of affection known as night-terrors. The child is sleepless, or even when it sleeps the slumber is disturbed, and it moans or it grits the teeth. All this should be overcome, or else the child in after years will be an epileptic. Chloral is the remedy, opium the poison. The dose to children will vary from four to twelve or more grains. He always uses, as the vehicle with which to mix the chloral, the syrup of tolu.

SYPHILITIC HEADACHE.—Dr. Edward H. M'Clean, Lyndhurst (*Lancet*), finds that the simple headache met with almost daily, in ordinary practice, is one of the sequelæ of syphilis. For this headache we have in the iodide of potassium a remedy which is a veritable specific. This remedy, in five-grain doses, three times daily, will ordinarily cause the trouble to disappear within a few days.

THE GERM THEORY.—Prof. Tyndall, LL.D., F.R.S., the great advocater of the "germ theory" of the propagation of disease, asserts that in this way the Asiatic cholera, from a small beginning in the delta of the Ganges, in seventeen years occupied nearly the whole world.

COLLODION IN INCONTINENCE OF URINE IN CHILDHOOD AND YOUTH.—Sir D. J. Corrigan, Bart., Phys. in Ordinary to the Queen in Ireland (*Dublin Quar. Jour. Med. Science*), recommends the application of collodion as the best mechanical treatment of incontinence of urine during sleep, in childhood and youth. It is most easy of application, occupies scarcely a minute, and can be carried out at school, college, or elsewhere, in perfect privacy.

All that is necessary is, while the prepuce, slightly curved up, is held with the left hand, to smear over the little cup thus formed by the extremity of the prepuce with collodion by means of a small camel's hair pencil or blunt end of a penholder. The collodion solidifies almost as fast as applied. In contracting it draws closely together the edges of the prepuce, and thus the exit for the escaping urine is closed.

TYPHOID FEVER CONTAGIOUS.—G. E. Frothingham, M.D. (*Mich. Univ. Med. Journal*), publishes twelve cases of typhoid fever, out of ninety cases, referable to contagion.

He coincides with the assertion of Prof. Austin Flint, "that as a rule people have this disease but once."

Care should be observed in the disposal of the alvine evacuations, which there is reason to believe are particularly active in the contagious properties. These should never be thrown into the common privy, and their contagious principle should be at once destroyed by the use of antiseptic agents. All the clothes used about the patient should, upon removal, be rinsed thoroughly in a solution of chloride of lime of proper strength, before they are washed. Dr. Wm. Budd regards a solution of green copperas, of the strength of a pound and a half of the salt to a gallon of water, the best that can be used.

PERMANGANATE OF POTASSA IN OXALURIA.—Dr. H. S. Thorne, of Chicago (*Mich. Univ. Med. Journal*), gave the subjoined prescription to a man, æt. 45, afflicted with dyspepsia and oxaluria: Permanganate of potassa in grain doses, to be made into pills with bread, three to be taken per day for ten days. A few days afterward he returned and stated that he was cured. On examination of his urine not a crystal of oxalate of lime could be seen. The symptoms, including the dyspepsia, disappeared.

Dr. Rose, of the Michigan University, had previously prescribed it in one case, in the following form:—

℞ Permanganate of potassa, gr. viij.
Aqua, ℥ ij.

M. Sig. One teaspoonful to be given three times a day.

It should not be given except on an empty stomach; for in contact with organic matter it is decomposed, yielding its oxygen to any element, simple or compound, that will receive it.

TURPETH MINERAL IN CROUP.—Prof. Fordyce Barker, M.D. (*Am. Jour. of Obstetrics*), always commences the treatment of croup by an emetic of turpeth mineral

(hydrargyri sulphas flava), in doses of from three to five grains, according to the age of the child. If it does not act in fifteen minutes, he directs a second powder to be given. This, however, is rarely necessary. His reasons for preferring this to all other remedies in croup are the following: It acts much more promptly and efficiently than ipecac or alum; it is tasteless, and much more easily administered than either; it does not exhaust and depress the vital power like antimony. It is equally prompt in its action with the sulphate of copper, while it is much more effective as a revulsive and sedative. This emetic should be given immediately on the appearance of the symptoms which threaten croup. It is the only medicine which he has constantly carried in his pocket for twenty-eight years. In all families with young children that he attends, when the slightest tendency to catarrhal laryngitis has been manifested, he has been in the habit of directing that this medicine should be constantly kept where it can be readily found; and he has no doubt that at this moment a hundred families in this city have three-grain powders of the turpeth mineral carefully labelled "croup-powders." There is one advantage in their use which must not be omitted; if the supposed attack of croup is simply one of laryngismus stridulus, or of what is called false or spasmodic croup, the powders do no harm.

It has sometimes occurred that he has found evidence of increasing laryngeal and tracheal obstruction, and has in consequence repeated the emetic of the turpeth mineral on the second or third day; but he has never had occasion or deemed it well to repeat it a third time.

The Use of Quinine in the Diseases of Childhood.—C. Bing, M.D., Professor of Pharmacology in the University of Bonn, Germany (*Am. Jour. of Obs.*), regards quinine as an important remedy in those diseases of childhood thought to be dependent on septic or zymotic conditions, like measles, scarlatina, and diphtheria. In scarlet fever, quinine should be given from the *very commencement* in sufficiently large doses, the progress of the disease carefully watched by the aid of the thermometer, and the doses increased in quantity if the fever grows threatening.

Of the acute exanthemata of infants, he would mention one particularly as being within the sphere of the influence of quinia, namely, *erysipelas neonatorum*. As a general rule, an internal dyscrasia, or an external putrid ulceration of the navel, is assumed as the cause of this fatal disease.

The action of quinine in this disease is attributed to the overcoming of the alteration of the blood, to the diminution of the high temperature, and to the direct removal of the histological causes producing the erysipelas.

In pertussis, quinine has answered his expectations. Three conditions are absolutely necessary if we desire any good results from it in whooping-cough. It should be given in solution; the dose should not be too small, and should not be administered in a vehicle that will prevent it from coming in contact with the mucous membrane in its passage through the pharynx. The preparation should only be given when dissolved in muriatic acid, unless we are desirous of employing the alkaloid combined with that acid. Its constantly increasing price is a great obstacle which the physician often encounters in prescribing quinine extensively. This may be avoided by resorting to the amorphous chinine-chinoidine; and Prof. Bing states, in closing, that the preparation lately introduced into commerce by C. Zimmer, of Frankfort-on-the-Main, under the name of chininum muriaticum amorphum, cannot be too highly recommended.

Veratrum Viride in Dysentery.—Dr. A. M. Ragland, Shelbyville, Texas (*The Med. Archives*), advocates veratrum viride in dysentery, and alludes to a case of a boy, æt. 6, who, when first seen, had from 30 to 40 evacuations in 24 hours; pulse rapid, small, and wiry, numbering 130 per minute, and the temperature, as indicated by the thermometer in the axilla, 103.5 F. Wishing to reduce the too rapid action of the heart, he gave veratrum viride, commencing with three drops of Norwood's tincture, and increasing one drop each dose, which in six hours brought the pulse from 135 to 60 or 70 beats, and in corresponding ratio the temperature was found to have fallen to 101° F.

The marked benefit of the treatment was shortly manifest in the lessened number of evacuations and reappearance in them of fæcal matter. The child made a good recovery, convalescing steadily from the time of the favorable change.

Did the veratrum's remedial influence act directly upon the disease-process, arresting the molecular disintegration which was going on, and the development and elimination of preternatural heat, by controlling the destructive metamorphoses caused by the action of the disease poison upon the tissues?

Bony Anchylosis of the Elbow-Joint.—Dr. Louis Bauer, St. Louis, Mo. (*St. Louis Med. and Surg. Journal*), first describes a case of "Total Exsection of the Elbow-joint," and remarks:—Some eminent surgeons have recommended and performed the exsection of the elbow in bony anchylosis as a legitimate operation, for no other object than to restore the lost mobility to the articulation. He is not able to strengthen their case by his assent; the results of three operations for the specified purpose of removing carious bone do not encourage the hope of a very useful arm. Unless the position was very awkward and disfiguring, he would be disinclined to consider bony anchylosis of the elbow-joint a sufficient indication for operative interference.

A Case of Fracture of Portion of the Cranium—Recovery.—Dr. A. A. Shutt, Springfield, Mo. (*Med. Archives*), publishes the following case of fracture of cranium:—A negro boy, æt. 12, was struck on the head with the back of an axe, causing a contused wound with a crucial laceration, about two inches in either direction, and a fracture and depression of at least three-fourths of the entire left parietal bone. A portion of the middle of the parietal bone, about three-fourths of an inch in width, and two inches and a half long, extending from the temporal side to within an inch of the sagittal suture, was found entirely disconnected, and its posterior edge so depressed that the fragment stood perpendicular in its short diameter, showing a depression of its entire width—three-fourths of an inch. The anterior or temporal edge of the portion of the parietal back of this was depressed to a like depth, and at its junction with the right parietal, about a line, from which, however, it was not entirely detached, the periosteum being intact. The detached fragment was removed. The remainder of the depressed portion, by sawing off a small point of bone, he was able to raise to its position. There was no laceration of the dura mater. With a view of promoting suppuration, and giving a free outlet to the pus, he approximated the edges of the flaps to about the tenth of an inch by means of adhesive straps, and ordered the application of warm flaxseed poultices enclosed in a flannel cloth. Twenty-seven days following the in-

jury, the wound healed. Complete convalescence followed without an unfavorable symptom.

His opinion is that all wounds of the head, with fracture of the cranium, that we cannot expect to heal by "first intention," should be treated as suppurating wounds from the beginning, with warm applications instead of cold, and that less extensive inflammation will follow after this mode of treatment.

MERCURY IN VULCANIZED RUBBER PLATES.—As the assertion is often made "that mercury contained in dental plates made of india-rubber" is very poisonous, Jas. B. Hodgkin, D.D.S. (*Am. Journ. Dental Science*), wishes to relieve the minds of those wearing rubber plates, and states that the mercury, so-called, is not mercury in fact, any more than cider is vinegar, or starch is sugar. "Vermilion" is the preparation necessarily used by the manufacturers of india-rubber to give that article the ordinary red tint. This is the sulphuret of mercury, Hg. S., containing equivalent proportions of mercury and sulphur, an insoluble compound under ordinary circumstances.

In a rubber dental plate we have, on an average, 45 grains of sulphuret of mercury firmly combined with rubber, in such a form that it cannot be reduced to the metallic or soluble condition except by a degree of heat sufficient to sublime the mercury, which takes place at 662° F., and this, of course, could not occur in the mouth, when it is remembered that water boils at 212°. No other change can occur but this; and this leaves but one other source of danger of mercurial poisoning, and that would be from the wearing away of the plate, and the consequent swallowing of the particles thus worn off. As these plates last from ten to fifteen years, and they do not wear out, but fail from some molecular change in the rubber, it will be apparent that this danger is not great.

ALVEOLAR ABSCESS.—At the April meeting of the Southern Dental Association, held in New Orleans, La., a profitable discussion ensued on alveolar abscess, and Dr. J. S. Knapp advised the use of creasote in alternation with chloride of zinc.

Dr. Clarke, of Savannah, recommended carbolic acid, iodine, and glycerine.—*Am. Journ. Dental Science.*

FRACTURE OF THE INFERIOR MAXILLARY.—R. Wisong, M.D., Baltimore, Md. (*The Med. Bulletin*), publishes a case of this character, with the application of the modification of Dr. Bullock's sub-maxillary splint, made by Dr. R. B. Winder, a Baltimore dentist. Dr. W. took in wax an accurate impression of the lower jaw, and manufactured a vulcanized rubber splint which fitted over and covered all the teeth except those at the point of fracture. The teeth were allowed to show. This arrangement enabled the surgeon to see at a glance if the fractured ends were in juxtaposition; for, so long as the teeth were in line, there could be no displacement. This opening also enabled him to syringe out any accumulation of food or secretion between the splint and teeth or gums. The object in covering all the teeth, except at point of fracture, with the dental splint was, that they, instead of the gums or alveolar processes, might receive the pressure.

To this dental splint two stout wire hooks were attached, which came out at the corners of the mouth. To these pieces of annealed wire were fastened, instead of cords, as recommended by Dr. Bullock, which extended below the sub-maxillary splint. These were secured with thumb-taps. With this arrangement the pressure could be graduated with greatest nicety. This splint allows the patient to eat and talk without fear of displacing the fractured ends of the bone.

OVARIAN NEURALGIA.—Dr. J. T. Newman (*Chicago Med. Examiner*) recommends the following prescription in this affection:—

℞	Ammoniæ muriatis,.....	ʒ ij.
	Tr. aconiti,.....	f ℥ ij.
	Syp. aurantii cort.....	f ʒ viij.

M. S.—Teaspoonful three times daily.

THE SUCCESS OF GALVANO-PUNCTURE.—The success of the operation in aneurism depends on the subjoined conditions, viz.:—1st, The size of the aneurism; 2d, a proper insulation; 3d, the exact amount of galvanic force.

A proper covering of the needle by some non-conductor is of the utmost importance. If this is not carefully attended to, the heat produced by a large exposed non-conducting surface will give rise to a violent secondary inflammation, so severe that the entire sac may subsequently slough away. The sloughing of the track of the non-insulated needle is another deplorable danger. To prevent these dangers the needle has been insulated by various substances with indifferent success. Petrequin recommends wax; Brocca, shellac; Phillips, black enamel.

Allen Mc Lane Hamilton, M.D., in his "Prize Thesis," presents the following formula for successfully coating the needles:—

℞	Gum shellac (Brown).....	1 drachm.
	Sol. india-rubber (Squibb's).....	1½ "
	Chloroformæ.....	2 "

M. The force and power of the galvanic battery should be carefully regulated. Too great an action may form a very curdy, loose clot, easily broken up by the circulating blood, carried off as emboli.—*Hamilton's Prize Thesis.*

PREPARATION OF CHLORAL.—The best mode of preparing it in a pure state is to subject absolute alcohol to the action of dry chlorine. Great precautions are requisite, since, in order to act upon about half a pint of alcohol, 1200 litres of chlorine are required, and 1500 litres of disengaged hydrochloric acid have to be disposed of. The chlorine, pure and dry, is transmitted through the alcohol contained in a large flask, from which an escape pipe leads to a large chimney. At first all the chlorine is converted into hydrochloric acid; but as the action becomes less energetic, the alcohol assumes a yellow color, which, however, disappears on the introduction of a few fragments of charcoal. The temperature of the alcohol must then be steadily and continuously raised, whilst the current of chlorine is rapidly passed through the fluid, till almost its boiling point is reached. In twelve hours about six ounces of alcohol can be converted into chloral; but when larger quantities are required, the operations must be continued for two or three days. The liquor in the flask is mixed with two or three times its volume of concentrated sulphuric acid, and submitted to careful distillation, in order to free it from hydrochloric acid, sulphuric ether, and alcohol. As soon as the temperature rises, the chloral accumulates at the surface of the mixture, and rapidly volatilizes. The distilled chloral is then placed in a retort with a thermometer, and boiled till its boiling point, at first lower, rises to 94° or 95° C. The remaining liquor should be redistilled with sulphuric acid, and again boiled. Lastly, it is to be distilled in a bath of common salt, after the addition of a small quantity of lime. To obtain the hydrate, it is only requisite to mingle it with its own volume of water, and evaporate.—*Lancet.*

THE MEDICAL RECORD.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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THE CONVENTION OF MEDICAL TEACHERS, AND THE PRESENT ASPECT OF THE MEDICAL EDUCATION QUESTION.

HAVING just received a full official report of the proceedings of the Medical College Convention, recently held in Washington, we are again invited to bring the general question of medical education, particularly that referring to the requirements of our medical schools, before our readers. This we do with no possible feeling of reluctance; on the contrary, convinced that it is our duty to further every feasible plan of reform, we gladly seize the opportunity thus offered. At the very outset, however, we are compelled, on behalf of the faithful pioneers of medical educational reform, merely to report progress. But even this is encouraging, taking into account all the various opposing circumstances that have been thrown against the adoption of the measures originally proposed.

Our readers are not ignorant of the passage of a set of resolutions at the Convention of Medical Teachers held in Cincinnati, May 3, 1867. The propositions embodied in those resolutions were designed to introduce into the system of medical college instruction many radical changes:—I. A positive standard of preliminary education was insured by a requirement to the effect that every gentleman intending to enter a medical college should be "required to show, either by satisfactory certificate, or by direct examination by a committee of the faculty, that he possessed a knowledge of the common English branches of education, including the first series of mathematics, the elements of the natural sciences, and a sufficient knowledge of Latin and Greek to understand the technical terms of the profession; and that the certificate presented, or the result of the examination thus required, be regularly filed as a part of the records of each medical college. II. That every medical student should be required to study four full years, including three regular annual courses of medical college instruction, before being admitted to an examination for the degree of Doctor of Medicine. III. That the minimum duration of a regular annual lecture term, or course of medical college instruction, should be six calendar months. IV. A systematic and successive order of studies—the students being divided into three grades, freshman, junior, and senior; and V. A special provision for clinical instruction in hospital to the senior students.

A committee of five, consisting of Drs. N. S. Davis, of Chicago, S. D. Gross, of Philadelphia, F. Donaldson, of Baltimore, the late Alden March, of Albany, and G. C. Blackman, of Cincinnati, was constituted, to communicate with the different medical colleges throughout the country, in order to ascertain the views of the respective faculties of the same, and, if possible, to agree upon some concerted action on the premises. The whole question was at the time fully discussed in the columns of the RECORD; and it will not answer our present purpose to do more than refer our readers to the arguments offered for the adoption of the different propositions therein contained.

There did not seem to be any powerful objection against its practical endorsement by the medical colleges throughout the country, except, perhaps, the foreshadowed one of a failure to agree on all the points presented. The experience of three years in the discussion of this matter, and in collecting the opinions from the faculties of the several schools, has proved that this want of a disposition to combined action is the main if not the only reason why the report has not been practically accepted. This fact is fully set forth in the able report of Dr. N. S. Davis, the Chairman of the Committee of Five. As a history of the educational movement thus far, it is a valuable piece of experience, as showing the ordinary and usual difficulties attendant upon all efforts to reconcile personal interests with the public good.

Notwithstanding all the medical colleges were invited to offer any objections or amendments they might think were necessary, only about ten of the thirty or more institutions then in active existence responded at all. Of these only five sanctioned the movement unequivocally, and declared their determination to act upon their convictions when a majority of the colleges should agree to combine with them. One institution was non-committal, and four suggested amendments. Virtually but one-third of the medical institutions throughout the country paid any attention whatever to the circular, showing pretty conclusively how dear to the heart of most of our medical teachers is any attempt at elevating our standard of acquirements. Experience has also proved that the settlement of the question of advancing medical learning must for the present rest entirely with the colleges, and that neither the American Medical Association nor the general government can affect it a particle. The profession are in reality in the hands of educational monopolists, the majority of whom have clearly shown themselves by their recent action to be insensible to anything in the shape of reform that may interfere with their pecuniary interests.

Here we have an appeal from a committee appointed from a most respectable assembly, with full authority to treat on questions which concern the vital interests of the profession at large, and only ten medical schoo's respond. The remainder, among which are some of the leading colleges in America, do not deign to give it even the cool courtesy of a recognition. In view of this the faint-hearted may get discouraged; but we are convinced that the time will come when the current of professional opinion will set in a direction that will be felt even by the largest and oldest schools, and that we shall yet have the opinions of the leading minds in the profession practically respected. The representatives of the Convention did not seek for an absolute adoption of their views, but courted the expression of any difference of opinion on the subject, that such might be made of use in perfecting the system. The delinquent schools owe it to their self-respect, in case they differ on radical points, to state them candidly, else they open themselves to the suspicion that they dread light to be thrown on their doings. They owe it to their reputation to place on record at least a sympathy for the movement, even should they feel powerless at present to practically test it by the changes proposed.

The last Convention, although at a convenient time and place, was very sparsely attended, and its proceedings, as we have before intimated, amounted to nothing. The reason seemed to be that some of the delegates from the Northern and Eastern Colleges had no authority to commit themselves on behalf of their respective faculties. And this was the case, despite the fact that the circular had been before every faculty in the land for the past two years for discussion. Many of the delegates from the South and West had come prepared for a final action, and were obviously very much disappointed to find that the brethren from the larger colleges took so long to make up their minds. It is not very difficult to see where the responsibility in this matter rests, especially when we are made aware of the fact that the old colleges of New York, Boston, and Philadelphia were *not* committed to any policy whatever.

In glancing over the proceedings we noticed the passage of the following, offered by Prof. Stillé:—

"*Resolved*, That, in the judgment of this Convention, the propositions adopted in 1867, by the Convention of Delegates from Medical Colleges, embody a system of collegiate medical education in the highest degree commendable, and which, if they could be generally carried into effect, would tend to elevate the medical profession,—that, nevertheless, the requirements for the degree of Doctor of Medicine must be practically determined by each Medical College for itself, by the average attainments of its students, and by other considerations of which it alone can judge; and that, consequently, while abstaining from all attempts at dictation, this Convention reiterates in the strongest manner its desire that the several Medical Colleges will, in the changes from time to time made by them in the curriculum of study, endeavor to conform them to the general plan which was recommended by the Convention of 1867, and adopted in the same year by the American Medical Association."

This is certainly conservative enough, and we hope that it will prove the entering wedge for better things in the future.

By way of placing on record the transactions of the Convention in question, at the same time giving an idea of its future efforts, we conclude with copying entire the following, offered by Prof. Samuel Logan, giving at the same time our hearty approval of the measures:—

"*Whereas*, This Convention has failed to secure the assent of a majority of the regular Medical Colleges of the United States to the system of improvement in medical education recommended at its last session; and,

"*Whereas*, It is the opinion of this Convention that the best means by which a judicious system of gradual improvement in medical education can be inaugurated by the Medical Colleges of this country, will be found in the *associated action* of such Colleges as will unite for that purpose; it is hereby

"*Resolved*, 1st. That a committee of nine be appointed, whose duty it shall be to communicate with the Faculties of all the regular Medical Colleges in the United States, with a view to ascertain how many, and which, may be willing to become members of an *Association of Medical Colleges*, having for its prime object the improvement of medical education.

"2d. That the Chairman of said Committee be instructed, as soon as he shall have received affirmative replies from ten (?) regular Colleges, to inform each Faculty so consenting of the fact, and to request that each Faculty elect one or more delegates, to convene on the Friday before the day appointed for the meeting of the American Medical Association, in 1871, and at the place of meeting chosen by that body—said delegates to be fully authorized to pledge their respective Faculties to whatever definite plan of improvement in medical education may be adopted by the body in Convention.

"3d. That it is hereby recommended that said delegates organize themselves, in behalf of their respective institutions, into a permanent *Association of Medical Colleges* for the above-mentioned object, and with the view of co-operating with the American Medical Association and the profession at large, in efforts to accomplish so desirable an end.

"4th. That Prof. N. S. Davis, the Chairman of the Committee appointed by the Convention of 1867 to communicate with the Medical Colleges on the same subject, be made the Chairman of this Committee, and that the Committee be authorized to fill any vacancies which may occur in its ranks."

Those who were present as delegates at the late meeting of the American Medical Association, in Washington, D. C., and heard the wrangling between the Massachusetts delegates in regard to their admission in that body, will be gratified to learn that at the June meeting of the Massachusetts Medical Society the following resolution of Dr. Bundy, of Boston, and amended by Dr. H. R. Storer, was passed:—

Resolved, That the Massachusetts Medical Society hereby expels from fellowship all those who publicly profess to practise in accordance with any exclusive dogma, whether calling themselves homœopaths, hydropaths, eclectics, or what not, in violation of the Code of Ethics of the American Medical Association.

As we understand the case, the Statutes provide for the admission of irregulars into this body. If we are right, such a resolution does no more than record the expression of an opinion. We sincerely hope that the contrary will prove to be the case, and some practical good may come of it.

Reviews and Notices of Books.

A Treatise on Medical Electricity, Theoretical and Practical, and on its Use in the Treatment of Paralysis, Neuralgia, and other Diseases. By Julius Althaus, M.D., etc. Second edition, Revised and partly rewritten. London: Longmans, Green & Co. Philadelphia: Lindsay & Blakiston, 1870. 12mo, pp. 676.

Dr. Althaus is a pioneer writer in Great Britain on the medical uses of electricity. Ten years ago he published the first edition of this work, and, as he writes in his preface to the present one, at that time medical men held galvanism in very low estimation; "reports of cures by electricity were received with an incredulous smile; there was only one hospital—Guy's—where electricity was regularly used, and there it was applied in an antiquated fashion, and its use relegated to nurses or dressers." We of New York need not go very far from home to see the same state of things. But Dr. Althaus tells us that in London there is a great change: "At the present time not a few hospitals possess the necessary electrical apparatus; able teachers are instructing students in its scientific applications; and the first medical society in the kingdom has appointed a committee composed of some of the most eminent members of the profession for investigating the therapeutical uses of electricity." May we not hope for some general professional movement in the same direction in this country? The few practitioners who own its worth, and understandingly employ it, are still looked upon as bidding for popular favor by unlawful, or at best doubtful, means, by the conservative majority, who in every age and in all places have claimed the right of blessing or anathema on those whose views may not fit their own inelastic dogmas. It is in vain to tell such that the scientific aspect of the subject has materially changed during the past decade; that, consequently, its practical aspect has been better studied by many of the best men in the profession; and though far from perfect, its state is one of happy and promising progress. We believe, and our opinion has been formed by no small study or inconsiderable experience, that individual tact, the result of personal practice, which includes both knowledge and wisdom, or the ability to value and use knowledge, is as necessary as an understanding of what is taught by others. The general rules are yet, to a degree, uncertain; each physician who employs the different forms of electricity as therapeutic agents, must, more or less, solve many of the problems himself; he should be prepared for disappointment, or even untoward events, in cases to all appearances alike, and the often slight shades of difference which affect the result can only be learned by personal study. There is no mystery nor hocuspocus in the use of this agent; but it becomes unsure, or even dangerous, when of hap-hazard employment. One prevailing notion is, because the disorder is a palsied limb, therefore electricity is the remedy; no heed being taken of the kind of palsy existing, or, what is just as important, the kind of electricity used, or the degree of both, and so on. It is this empirical employment of the remedy which has made the professional rating of it so contradictory and unsatisfactory. With such a book as Dr. Althaus', in which both the scientific and practical aspects of the subject are ably, concisely, and thoroughly treated, open to him, the physician who chooses to inform himself has no excuse for future ignorance. It is much the best work treating of the remedial effects of electricity that there is in English, and we hope it will be widely read and understood. The different circumstances and conditions which require the several varieties of current, singly, or combined, or alternately, are well given, and, on the whole, the author's claims of what may be accomplished by electricity will hardly be considered as exaggerated by those who know the capabilities of the agent when intelligently employed.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, June 8, 1870.

Dr. J. C. Hutchison, President, in the Chair.

FIBROMA UTERI.

Dr. Hart exhibited, on behalf of Dr. T. A. Emmet, a specimen of fibrous tumor of the uterus, and read the following history of the case:—

Fannie Phyfe, æt. 46, born U. S., was admitted January 20th, 1870. Married 16 years, has had two children, never miscarried. First child born twelve years ago, second child born ten years ago. Menstruation first appeared at the age of thirteen, recurred regularly, generally lasting a week. Leucorrhœa never a troublesome symptom. About two years ago first noticed that the menstrual flow was too copious, since then it has been gradually becoming more and more free. Last June she suffered pain for the first time with her period, now she is hardly ever free from a show. This state of things has existed for the last three or four months; general health has been excellent; has a good appetite; bowels regular when she has been able to be up and take proper exercise. Pathological condition: fibrous tumor attached to the anterior wall of the uterus by a broad base. February 15th, Dr. T. A. Emmet examined the attachment of the growth, with a view of its removal by the scissors, the uterus being previously dilated by sponge tents. He determined, however, that it had such a broad base that an operation was not justifiable at that time. Dr. Macready, her former physician, was present at the time of the examination, and fully concurred in Dr. E.'s opinion that the removal of the growth should be deferred until it had become pedunculated.

This time, however, never arrived, as it was finally removed with a scissors.

STAB WOUNDS OF HEART AND INSTANTANEOUS DEATH.

DR. FINNELL presented three specimens of stab wounds of the heart. The organs were respectively removed from a murdered man and woman, and a suicide. The latter discovered his wife in the company of a male friend, was forthwith seized with an attack of moral insanity and stabbed both of them, afterwards despatching himself. All the wounds were confined to the respective hearts, and in the friend and the wife they were very much alike, the knife entering the left auricle and passing out of the left ventricle. The heart of the suicide was opened from the apex of the left ventricle to its base. Death occurred in each case in a very few moments.

DR. DETMOLD asked, What was to be understood by "a very few moments?" and remarked that death generally took place instantaneously when the auricle was injured.

DR. FINNELL replied that such a short space of time could not be calculated, although the parties who were present stated that no effort at breathing was made after the wounds were inflicted. In answer to Dr. Van Gieson, as to the size of the external wound, he remarked that he had no positive recollection, as the specimens were some three or four months old.

BULLET WOUND OF HEART AND RECOVERY.

DR. HART referred to a specimen of wound of the heart, of a character similar to that of Dr. Finnell's, caused by a ball, in which, however, death was not the result. The missile had passed through the right auricle, thence through the septum, and was lodged on the left aspect of the apex. It was not known how long the ball had remained in that situation, as it was only accidentally found after the animal was shot a second time. The animal was a deer.

DR. DETMOLD stated that there were a number of cases on record similar to the above, in which in the deer encysted bullets had been found in the heart. In this connection he recalled the case of a soldier mentioned by Larrey. The patient had received a wound in the region of the heart, and while seemingly convalescent therefrom suddenly dropped dead. At the autopsy the ball was found free in the cavity of the ventricle, it having evidently been primarily imbedded in one of the ventricles. Death was apt in wounds of the ventricle to be very tardy, on account of the thickness of the muscular walls and their tendency to close over the missile.

THE BULLET IN THE HEART FOR TWENTY YEARS.

The discussion recalled to the mind of Dr. Rogers a case reported to the Society by Dr. Hamilton two years ago (vid. MEDICAL RECORD, vol. ii., p. 18), in which a ball had been found in the walls of the heart, near the apex, twenty years after the injury had been inflicted, death having occurred from an accidental pneumonia brought on by exposure. In the discussion which followed that case, an opinion was expressed to the effect that the ball having entered the right shoulder from above, had gone into one of the large vessels, dropped down into the heart cavity, afterwards penetrating the endocardium. Some weeks after the presentation, Dr. Hamilton informed Dr. R., as the result of a careful dissection, that he had become convinced from the obliteration of the jugular vein that such a theory as to the transit of the ball was the correct one.

INCARCERATED HERNIA AND INEBRIETY.

A second specimen consisted of the parts involved in femoral hernia, removed from a woman aged 45, who for three or four days had suffered (according to the account of her friends) from all the symptoms of femoral hernia, being all that time in a beastly state of intoxication. She apparently died as much from the drinking as from the trouble in the gut. On examination after death, a large tumor was discovered in the left inguinal region, due to a femoral hernia, involving two feet of intestine. It was reduced without the slightest difficulty, and there were no other signs of trouble save an intense redness of the mass. It seemed evident that it was nothing more than an incarcerated hernia, which could have been very easily reduced during life.

ANOMALOUS CASES OF STONE, LITHOTOMY, ETC.

DR. DETMOLD presented a specimen, and gave the following history of the case to which it belonged:—

On the 20th of April a boy aged 3 years was brought to the clinic suffering with all the symptoms of stone in the bladder. A small bent silver probe was introduced and a stone discovered. This was followed by a tolerably large-sized staff, which passed in with perfect ease. Several army surgeons who were present likewise felt and recognized the existence of the stone. Dr. D. then proceeded to operate by the lateral section, but when he cut into the bladder no calculus was to be found. Before commencing to operate he had occasion to remark that the case was in some of its aspects a little different from ordinary ones, inasmuch as the staff did not bring out the usual metallic ring, but in its stead a sensation as if it encountered some sort of incrustation, and that he was sorry to say that he had neglected to bring a calculus with him in case he should fail to get one from the operation. The finger being introduced with a negative result, the sound was again employed, when he found, just above the incision, the same sensation of grating against some hard substance. He then made an incision upwards with a grooved knife, then with the finger nail he scratched a little, and a stone weighing seven grains fell into the wound.

He remarked that this case might have been an example, perhaps, of many in which surgeons had failed to find the stone after a clear diagnosis had been made, never thinking of looking for the calculus in the membranous portion. It was remarkable that in a child of that age so large a staff should pass in without resistance.

As a companion to the former, he exhibited another stone, removed by operation from a boy brought to his clinic on the 1st of June. The patient was 15 years of age, and was laboring under all the ordinary symptoms of stone in the bladder. After the patient was placed upon the table the doctor proceeded to introduce a metallic staff, and feeling at the same time a hard body in the scrotum, remarked to the class that one of the testicles was very much indurated, accounting for the condition by the constant straining to which the patient had necessarily subjected himself. The sound, however, was suddenly arrested in its progress, and could not be made to go any farther. Examining the hardened body with more care, he found that instead of its being a testicle it was in reality a stone of large size, which hung down into the scrotum far enough to enable him to isolate it by a grasp. It was situated in the bulbous portion of the urethra, and was removed by an incision direct upon the part, through which a portion of the corpus cavernosum made its appearance. Both of the testicles had been drawn up in the abdominal ring. The calculus weighed half an ounce.

Both the cases perfectly recovered. In concluding his remarks upon these, he referred to the strange fact

that two such unique ones should present themselves within two weeks of each other.

BILIARY CALCULUS HALF AN OUNCE IN WEIGHT DISCHARGED PER VIAS NATURALES.

He also exhibited a calculus, biliary in character, weighing half an ounce, which had been brought to him by a physician in order to have its character determined. The patient was described by the attendant as having suffered a great deal of pain and distress during the passage of the stone, but more particularly at the time of its escape from the anus. The specimen was the largest that he had seen that had been passed *per vias naturales.*

DR. ROGERS thought it remarkable that in the first case of Dr. Detmold there was no obstacle to the passage of an instrument. Dr. R. recollected a case which he had in a young infant, with a very much smaller calculus in the urethra, in which it was impossible to introduce the smallest-sized probe. Relief could only be afforded by extraction through an external incision.

CANCER OF LIVER, STOMACH, ETC.

DR. MERRITT exhibited a portion of the liver and the stomach removed from a German, æt. 35, who until two years ago enjoyed excellent health. At that time he first began to complain of attacks of gastric and hepatic derangement, which soon increased in frequency, and became attended with an exceedingly irritable stomach. He had been under the care of a homœopathic attendant for a considerable period, and did not present himself for regular treatment until three or four weeks since. When Dr. Merritt first saw him, he found him considerably emaciated, icteric, with a feeble pulse, distended and ascitic abdomen, and a liver which extended far on the left side, nearly down to the level of the crest of the ilium. It was hard and firm, and apparently smooth. He could hold nothing on his stomach, and finally died as the result of inanition.

Autopsy thirty hours after death. The cavity of the abdomen contained about six quarts of fluid of a pale yellow color. The liver was studded with pale yellow masses composed of a sero-purulent fluid, and weighed sixteen pounds. The mesenteric glands were involved, as was also the œsophageal extremity of the stomach, where an ulceration existed. Here and there through the lungs the same masses were found. The spleen was contracted and the kidneys normal. The heart was slightly enlarged, and there was a slight atheromatous deposit on one of the curtains of the mitral valve. The masses were found on microscopic examination to be cancerous in character. The largest specimen of medullary cancer of the liver spoken of by Paget was 250 ounces; this one weighed 256 ounces. There was no hereditary predisposition to cancer.

CIRCUMCISION VERSUS EPILEPSY, ETC.

DR. SAYRE presented the prepuce of a youth aged 16, removed by circumcision ten days before. For the past two years the patient had suffered from epileptic convulsions, which for the last eight months were constantly increasing, attended also with an increasing loss of muscular power of the lower extremities. On examining his genital organs a large prepuce was found, with a very small opening, through which urine escaped with great difficulty. This latter was so great that the prepuce became greatly distended, compelling him to milk it to relieve himself. Once or twice there was an inflammation of the lining membrane of the prepuce, resulting in adhesions to the glans. Presuming this to be a source of irritation he determined to circumcise him. Since the operation there had been no convulsions, when before there was scarcely a day without them, and not unfrequently there were four in the course of twenty-four hours. He was inclined to look upon the irritation of the penis and the convulsions in the relation of cause and effect, remarking that too little attention had been given in such cases to the treatment of such genital affections. The following case, bearing on that point, was related in connection with the foregoing: Dr. Sims sent him a patient, with legs contracted at an acute angle, for the purpose of having the hamstring muscles cut. On examination it was found that the limbs could be very easily extended, showing merely a paralysis of the anterior muscles. While preparing to use the galvanic current upon the parts, the nurse warned him to be careful not to touch the child's penis as it was exceedingly tender. He found it very erect and very red, with phymosis, and a very small preputial orifice. On attempting to expose the glans adhesion was discovered. This condition of things, according to the nurse, had existed for a year and a half, giving rise to a good deal of irritation. The case was explained to the father, and he consented to the operation of circumcision. No other treatment was employed, and both limbs soon became perfectly straight. Since that time his attention had been drawn to some fifteen or sixteen similar cases in which a similar treatment had been followed by a like gratifying result. He had performed the operation that day upon two boys with this form of phymosis, who were addicted to wetting the bed, and he had no doubt that there would be a complete breaking up of the habit in consequence.

DR. DETMOLD believed that these adhesions spoken of by Dr. Sayre were of fœtal origin, and that ordinarily no such radical operation as circumcision was required in the majority of cases, all that was necessary being a slitting of the prepuce on one or both sides to relieve the stricture. He believed in relieving the phymosis, but thought that the Dr. broke his egg with a large hammer. He did not mean to be understood as saying that the existence of a prepuce was any great advantage, still there was no reason why it should be needlessly cut away. On the other hand it might be very desirable to preserve it, as it might lead to the suspicion, after marriage with a widow, that the male was either not perfect or had suffered from some disease. In Dieffenbach's surgery there was an operation described for forming an artificial prepuce, which fact proved that the want of that appendage had been seriously felt. Again, if the operation of circumcision were a radical cure for wetting the bed, then Jews would never be addicted to the practice, a fact not borne out in his experience.

DR. SAYRE stated that he had circumcised only three cases for this difficulty, all that was necessary in the remainder being to slit up the prepuce as proposed by Dr. Detmold.

DR. HUTCHISON remarked, that he had had occasion to remove the prepuce for spermatorrhœa, and being informed that the young man whose case was reported by Dr. Sayre had that trouble, he ventured to conjecture that the phymosis might have caused the spermatorrhœa and the spermatorrhœa the paralysis.

DR. DETMOLD stated that there certainly was no objection to circumcision in extreme cases, and slitting of the prepuce in ordinary cases, inasmuch as it was known that phymosis was one of the causes of sterility.

DR. ROGERS referred in this connection to a case in his practice of a man who had such a small opening in

his prepuce that he had never been able to see the glans, but he was the legitimate father of four children.

Dr. Detmold acknowledged that the rule need not always be without exception, but that there were some good authorities who state that phymosis, like every other fœtal condition remaining in after life, was the exponent of a want of power in the particular apparatus affected.

EXFOLIATION OF PORTION OF OS FRONTIS, ETC.

Dr. Sayre next exhibited an exfoliated portion of the os frontis, removed from a gentleman who, six years ago, while passing through a hall ran against a projecting gas-bracket, inflicting a severe bruise on his forehead, about two inches above the right superciliary ridge. This spot was afterwards very annoying, and finally an opening occurred which constantly discharged and refused to heal. When he presented himself to Dr. Sayre a probe easily detected dead bone. An incision was made upon the point, and the foreign body grasped, when it was found to be locked on the inside of the skull by an extra process which seemed to be an exostosis. After its removal the pulsations of the brain were clearly visible. There was no evidence of any syphilitic taint. The wound had not yet healed.

STRICTURE OF RECTUM.

Dr. Hutchison exhibited a specimen of stricture of the rectum, removed from the body of a lady 35 years of age. She came under his observation on the nineteenth of January last, with the statement that for the previous eight months she had suffered from considerable distress in the lower bowel, manifested by pretty constant tenesmus and a discharge of a sanious fluid per anum. Otherwise she appeared to be in excellent health. An examination was made per rectum, when a narrow rim of deposit was discovered on the left half of the intestine about three inches from the anus. On the right side of the bowel and behind it, apparently in the subcellular tissue, another mass was discovered of the same consistency. In referring to her history, no hereditary predisposition to cancer was discoverable, neither had there been, at any previous period, any attack of dysentery or other inflammation of the gut. There was also no reason to suspect syphilis. The diagnosis of malignant disease was made, and she was informed accordingly. Some two or three weeks subsequently she consulted Dr. Van Buren, who found that the rim then extended entirely around the rectum. Some four weeks after his first examination Dr. H. made a second, when he found the whole circumference of the gut involved. So close had become the stricture, that it was impossible to crowd the finger through it. At that time she had had no evacuation for seven days. He began to dilate the stricture with a No. 12 urethral sound, and went on increasing the size of the bougie until the largest size was reached. This was not followed by any considerable discharge of fæcal matter. She suffered a great deal from pain, and indeed experienced no relief whatever. She was not examined again until after her death, which took place five weeks after the last examination, during which time nothing passed her bowels, she being kept comfortable by opium.

As she had expressed a wish not to be buried until the fourth day, a post-mortem examination was not made until that time. The body was well preserved on ice. On opening the thorax two yellowish white spots on the lower portion of the right lung were found, presenting the aspect of medullary cancer. There was also a smaller nodule in the lower lobe of the left lung, otherwise the two organs were entirely healthy. The heart was also normal. On opening the abdominal cavity, the colon was seen distended with fæcal matter from three inches above the caput coli to the point of stricture, the greatest accumulation being at the junction of the ascending and transverse colon, at which point there were numerous adhesions to surrounding parts. The stricture, three inches above the anus, extended upwards, involving about two and a half inches in breadth, and was so close that water could only pass through very slowly by drops. There were some deposits over the bladder, some in the liver, spleen, and right kidney, which was considerably larger than the left. The pancreas and stomach and uterus were normal.

In conclusion, he stated that the operations for excision of the rectum and lumbar colotomy were respectively discussed, but it was deemed inexpedient to employ either—a decision well borne out by the autopsy.

Dr. Detmold asked if primary cancer of the rectum in a female was not exceedingly rare? He had never seen nor heard of one.

Dr. Bibbins recollected one such occurring in Bellevue Hospital, which, on account of its rarity, excited a great deal of attention.

Dr. Rogers had in mind another case of primary cancer of rectum in a female, which had been extensively advertised by the Missisquoi Spring proprietor as having been cured.

Dr. Van Gieson referred to a case of cancer in the rectum, in New Brunswick, N. J., for which colotomy had been performed by Dr. Morrough of that place. The patient died six days after.

Dr. Detmold did not believe the operation was ordinarily justifiable, although in some cases life might be lengthened by it.

Dr. Hutchison referred to one case reported by Mr. Curling, in which that gentleman had supposed that life had been prolonged by it seventeen months.

There being no other specimens, the Society went into executive session.

NEW YORK MEDICAL JOURNAL ASSOCIATION.

Stated Reunion, April 8, 1870.

Dr. Isaac E. Taylor, President, in the Chair.

STETHOSCOPES AND THEIR USE.

Dr. Austin Flint, Sr., who had been announced to speak upon *Stethoscopes*, remarked:—

I trust, Mr. President, that none of the gentlemen have come to-night expecting to hear a carefully prepared paper; for I expressly stipulated that I should be allowed simply to make a few off-hand remarks. And I will say at once that I do not propose to enter into any abstruse questions of acoustics; for these, however interesting, and in a certain sense useful, are not important for the practical employment of auscultation by means of stethoscopes.

In selecting the subject of Stethoscopes, I of course imply that I intend to speak only of *mediate* auscultation. But, in thus confining our attention, I would not, for a moment, be understood to disparage *immediate* auscultation, by the ear applied directly to the chest. One who has devoted much attention to this subject is very apt to be asked, Which do you prefer? My answer is, Neither exclusively, for both are important. There are certain advantages, too obvious to require comment, in immediate auscultation—the rapidity and the ease of applying it

when we have no stethoscope at hand. Again, there are important advantages which render mediate auscultation, in certain cases, quite indispensable—the means it affords of auscultating parts of the chest where we cannot directly apply the ear, and of localizing sounds more definitely than by the unaided ear is possible. It is well known that Laënnec studied auscultation altogether by means of conductors; and his great work is entitled "Mediate Auscultation," thus ignoring our ability to ascertain the physical signs by means of the ear alone. He used a wooden cylinder, a little over a foot long, which admitted of being separated in the middle, for convenience of carrying in the pocket. It had a small bore, with a stopper in the end, which, according to his idea, was to be kept in place for auscultation of the heart, and to be withdrawn for auscultation of the respiratory sounds. This particular specimen which I show you is of some interest, as having been owned by Laënnec, and undoubtedly made by his own hand. He was accustomed to amuse himself by turning stethoscopes for his friends. This one was given by Laënnec to one of his *internes*, who, in his turn, gave it to a former colleague of mine, from whom I received it. After these there was made a great variety of wooden stethoscopes. Here is one, made to be used also as a percussor. This delicate instrument, turned from ebony, was used by Walshe, of London, and is the most beautiful I have ever seen.

Dr. Pennock, of Philadelphia, is, I think, entitled to the credit of having first introduced a flexible stethoscope, though of this I am not quite sure. He attached to one end of a flexible tube a metallic cone to be applied to the chest, and to the other end a tube of metal adapted to the external meatus of the ear. I think it was in 1854 that a very important advance was made in the construction of stethoscopes, by the invention of the late Dr. Cammann, of this city. With his "binaural stethoscope" you are of course all familiar. The great excellence of this instrument lies in the fact that it is binaural. That the conduction of sounds is much intensified by this, a trial will easily convince one. So far as I am capable of judging, it seems to me this stethoscope may very well be compared with the binocular microscope. As that brings out objects in strong relief, so this seems to render sounds with clearer definition. In devising the instrument, Dr. Cammann evidently studied very carefully many important points, which are often lost sight of by the different makers. Thus many of the instruments, supposed to be made after his pattern, are so encumbered with defects of construction as to lead to disparagement of the invention itself. Each of the two metallic tubes should have its curves so arranged that the aperture comes in a direct line with the meatus of the ear. The size of the knobs in which they terminate is also important. Of course they must not be too large; but a very common defect is that they are too small, so as to penetrate so far into the ear as to cause pain. In this case it is impossible to use the instrument for any great length of time without much discomfort. The instrument before you is disjointed, simply for convenience in carrying. The flexible part of the instrument should be quite flexible, and this is a very important point. I often see stethoscopes where the tubing appears very nice, but is so stiff as to impair their efficiency; for every motion of the body then pulls upon the ear and causes pain. Again, the tubing should not produce a sound in bending. During the late war it seemed, for a time, impossible to get tubing free from this serious imperfection. The pectoral extremity of the instrument should be made of different sizes. The larger it is, the more sound it conducts; and also the sooner can we pass over the whole chest—a matter of some importance in a complete examination. On the other hand, with a smaller objective, though the sounds are fainter, they can of course be more definitely localized. The conduction is evidently effected chiefly by the air in the tubes. Of this you may convince yourself by obstructing the tubes, or by obstructing one of them, when you at once perceive that the sounds are heard only by the other ear.

I have been led to believe that Dr. Cammann did not appreciate the full value of his own instrument; and I have found a prejudice against it, which I think still exists. Dr. Cammann had the idea that the instrument should be used only where the sounds were too feeble for immediate auscultation, or for conduction by wooden instruments. But it is of great consequence to use it habitually, so as to be accustomed to its indications. Then, again, he had the notion that it impaired the hearing. I am sure that this is not the case, for I have used this stethoscope daily since 1854, and I am not aware that my hearing is in the least impaired. But I can readily see how he gained the idea. For if after hearing sounds through this instrument we try immediate auscultation, the contrast is so great that we fancy the sounds have become diminished in force, or that our power of hearing them has suffered. You must practise in both ways, therefore. It is more trouble, but it is quite essential, to auscultate also with the naked ear, so as to be ready for the cases where you cannot command the stethoscope.

There is one thing about the instrument which explains why so many try it and then throw it aside. I have had, within the last few years, perhaps eight hundred private pupils in auscultation; and my uniform experience has been that the great majority of them, when they first begin to use the instrument, do not like it, and say they hear better with the ear alone; but before the course is over they become so attached to it that I have to enjoin upon them to practise without its aid. This first dislike may be due in part to the fact that both ears are closed, which gives a certain feeling of unnaturalness. But it is due more to the fact that the instrument itself communicates to the ear a certain obscure, somewhat rumbling, sound, not unlike that heard when a shell is applied to the ear. This at first distracts the attention, and it is necessary to acquire the habit of overlooking it entirely—a habit easily acquired. Then, of course, there is something in one's previous habits of auscultation. Any one accustomed to the use of any instrument, however inferior, is apt to think it the best. I began my use of Dr. Cammann's stethoscope in the study of the respiratory sounds of the healthy chest, which I pursued by its means for many months. At that time I used a wooden stethoscope for auscultation of the heart-sounds, though now I know that Dr. Cammann's is particularly well adapted to this purpose.

There have been several modifications of Dr. Cammann's instrument suggested. Here is one given me several years ago, having the pectoral extremity closed by a diaphragm of india-rubber, the objective being filled with water before using. After faithful trial I came to the conclusion that this form had no real advantage that could compensate for its inconvenience. Dr. Snelling, of this city, has attached to the objective a rim of soft rubber, about half an inch wide, increasing the length of the objective by this amount. The advantages he claims are, that you can apply the instrument more closely to the inequalities of the chest, and can make more pressure without pain to the patient, thus improving the conduction and decidedly promot-

ing the patient's comfort. I have used this attachment within the past year, and am much pleased with it. With a large extremity its advantages are very evident. It unquestionably conducts better, and completely meets the difficulty we find, when the walls of the chest are quite thin, in closely applying the objective at every point of its circumference. There is the slight objection that the rubber produces a little sound; but after a short trial you become accustomed to this, so that it does not interfere with you, and hardly constitutes an objection. Dr. Snelling's modification I consider a real improvement.

Dr. Brown, of this city, proposed to have the end of the objective covered with a diaphragm of parchment, firmly stretched, so as to make uniform pressure over the whole circle, and not simply upon its circumference. On testing this, I came to the conclusion that it was of little advantage.

Here we have Dr. Alison's "hydrophone"—a simple rubber bag filled with water, to be used either as the only medium between the ear and the chest, or to be placed in the mouth of the stethoscope when that is applied. With regard to its effect on conduction, which it was designed to improve, I am sure that it is only an impediment, as five minutes' trial will satisfy any one. Dr. Alison, with all the many merits he doubtless possesses, is not, I think, happy in his inventions. Here is what he calls a "differential stethoscope," with two independent objectives communicating each with one ear-piece. His design was to enable the auscultator to listen at the same instant to sounds produced in different parts of the chest. A moment's reflection would show that we must compare sounds not simultaneously but successively; and this is well known to those accustomed to the comparison of musical sounds. Since, then, we can with this instrument listen with but one ear at a time, we lose one-half the conduction.

Lastly, I have to show this contrivance, sent me from Wheeling, Virginia, and called a stethoscope. It is an oval ring of wood, an inch or two in thickness, with one edge covered with velvet, to receive the ear, and an elastic strap to hold it in place on the head. With this curiosity in stethoscopy came a letter explanatory of its merits, such as that it saved the physician's and the patient's modesty, which the direct application of the ear to the chest might offend, etc., etc.

I may venture to offer a few remarks with regard to the question, why some, and I may say quite a number, of those who wish to become good auscultators do not become such. What are the difficulties in the way? The first is that of not pursuing the right course in the study. We have now acquired, if not all the physical signs that will be acquired, at all events a large number of them. These are to be studied by analyzing them into the different elements which they combine as sounds—elements of intensity, pitch, quality, together with some others, such as duration, moisture, etc. The various morbid signs must be compared with each other and with the signs belonging to health, with particular reference to each of the elements which enter into them. It indicates a very loose style of observation, though too common, to describe signs by analogy—to say that such a sound is like so and so.

A great difficulty is that of not giving, as the primary step in the study, sufficient attention to the healthy chest. I have been very much surprised to find how much this is neglected. It is evident that the signs of the healthy chest must be our point of departure; and I never begin a course of instruction without impressing upon the class that they must devote special attention to these. Without a knowledge of them we can, of course, neither distinguish morbid signs from those of health, nor interpret them when recognized. But, clear as this is, I yet find it exceedingly difficult to secure the requisite amount of practice upon the healthy subject.

Another difficulty lies in the inability of some persons to concentrate the attention upon the physical signs, upon the sounds heard. Individuals differ greatly in this regard. But the power of concentration may be acquired by practice, so that auscultation may be performed in the midst of all kinds of noises. By practice the attention may be so directed to a particular sound that no notice is taken of any other.

Yet another difficulty is a logical one, not peculiar to physical exploration—the habit of quickly forming a conviction as to the conditions which exist in the case, and then putting oneself into the advocate's attitude of seeking for evidence to sustain this conviction. I have often seen this. If you interrogate a patient as to his condition, it requires an effort not to form a conclusion—for instance, that tubercular disease of the lungs is present; and then a special watchfulness over your senses to prevent them being misled by your theory into giving you the signs of tuberculosis. I need not say that your proper attitude is that of the judge—that the true method is to suspend judgment entirely until all the evidence is obtained, and then, reviewing it carefully, to make up your decision.

Dr. Farnham thought that the "hydrophone," although an impediment in auscultating the bare chest, was of advantage in conveying sounds more accurately through the clothing. Without it you could not have even the slightest tissue between the stethoscope and the skin.

The President had at one time made much use of the solid cedar stethoscope, and found it of great value, especially for auscultation of the heart and of the abdomen, where he decidedly preferred it to Cammann's. Both Dr. Cammann and Dr. Clark had recommended it for these purposes. It was also of great use in recognizing fractures, where the overlying tissues had become œdematous. There was another instrument, with a very small objective, for placing between the ribs. The profession was indebted to Dr. Flint for reviving the interest in Dr. Cammann's stethoscope, which had been falling into disuse.

Dr. A. L. Carroll referred to a discussion in the *Lancet*, upwards of a year ago, upon the merits of the solid stethoscope of porous wood, called by the younger Liebig the "akouoxylon." He had experimented with a variety of stethoscopes, and found that, practically, air was the best conductor, although this was opposed to the principles of acoustics. He had tried water in Alison's "hydrophone," and had tried hydrogen gas in a stethoscope lined with thin rubber tubing.

Dr. Folsom, referring to auscultatory percussion—auscultation by the stethoscope kept in one place while percussion is made in the surrounding region—said that he had, several years ago, seen it employed in the classes of Dr. Bowditch, of Boston, for mapping out consolidated portions of the lung. He had then thought that it would come into general use, as an additional means of diagnosis, and might lead to important results. It would seem specially adapted to determining with accuracy the degree of enlargement of the heart. If it were advantageous in any case to have a large amount of sound transmitted to the ear, there would seem to be no reason why the advantage should be less marked here. All the experiments he had seen were conducted with Dr. Cammann's instrument.

The meeting adjourned.

Correspondence.

MORBID SYMPATHIES OF THE URETHRA.

To the Editor of the Medical Record.

The Record of June 15 contained an article from the *Med. Press and Circular*, headed "Morbid Sympathies of the Urethra," in which Mr. Paget is represented to say that syncope and epileptiform convulsions never occur on the introduction of the catheter when the patient is lying down.

A few years since I was called in the night to a man suffering from retention of urine. As there were no signs of organic stricture, at first the usual simple means were used. When these failed the man was laid on his back and a soft catheter, bent on itself, easily passed into the bladder. The urine started with great force, but the patient immediately passed into the most violent epileptiform convulsions, when the catheter was withdrawn, and soon the convulsions ceased.

In a few minutes the imperious desire to urinate, with the fearful agony, returned. A second time were simple remedies tried without success, when the catheter was passed a second time, the patient again on his back. Immediately the convulsions returned and the instrument was again withdrawn. The relief was this time a little longer. In less than fifteen minutes, however, the agony returned.

The extreme violence of the convulsions made me hesitate to again introduce the instrument, and the warm bath, pouring water into a shallow vessel, frictions with belladonna, etc., were vainly tried. The patient at length begged me to once more pass the instrument.

When the urine started, my thumb was placed over the end of the catheter, and the urine permitted to escape drop by drop; after a little time several drops were allowed to escape before the flow was interrupted, and the quantity slowly increased until the bladder was empty, with no further return of the convulsions.

Respectfully,
C. B. Hutchins, M.D.

Buffalo, July 1, 1870.

New Instruments.

NEWMAN'S NEW GLASS ATOMIZER.

The atomizer of Dr. Robert Newman, of New York, is constructed on the principle of one capillary tube enclosing another. The double-air chamber of the rubber tube presses the air through the inner tube *r r*, and directs the spray. The same movement exhausts the air from outer tube *p p*. As soon as there is a vacuum in the outer tube, the fluid from the vial *S* is forced upwards into it, and surrounds the inner tube. The continued pressure forces the fluid through the small opening, and produces the spray. The fluid is carried in the outer tube—the air, which atomizes, in the inner tube. The opposite mechanism, *i. e.*, the inner tube carrying the fluid, and the outer the air, will produce the same effect. Instruments constructed according to the latter theory have been made by the same artist, and work well. These atomizers are made to direct the spray in different ways: upwards, downwards, or straight forward. Either of these directions is produced by the end of the inner tube, which conveys the air. But in either case the instrument is only one piece of machinery. Fig. 1 represents the straight atomizer in operation. *p p p*, is the outer tube—*r r* inner tube. *S* the vial with the medicated fluid.

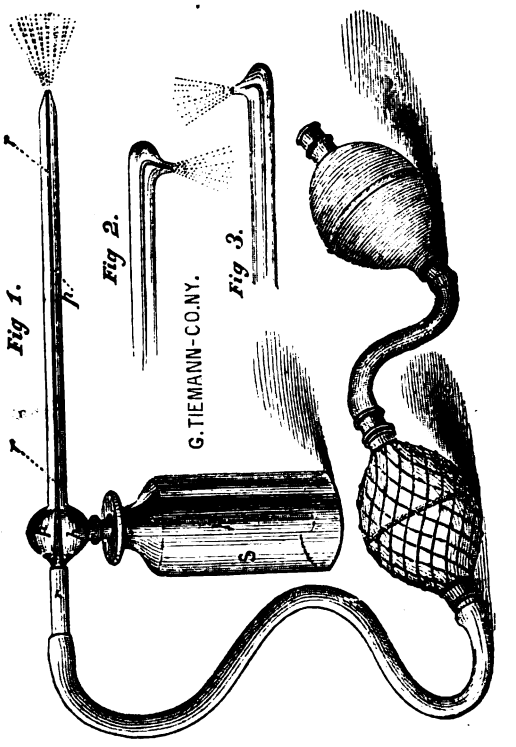

Fig. 2 is the end of an atomizer downwards for the larynx, etc., and Fig. 3 the end of an atomizer which sprays upwards for the posterior nares.

These instruments possess many advantages over all the other patterns in use now. They are clean, always keep so, and they do not decompose the solutions; produce a finer spray, thereby not irritating the parts; never need repairs, always keep in order, and are cheaper than other contrivances. They are not patented.

The idea for the construction of these atomizers was given by Dr. Robert Newman, of this city, and after repeated trials and experiments was executed by Mr. Demuth, the artist in glass.

The instruments are for sale at the well-known instrument-makers', Geo. Tiemann & Co., 67 Chatham street, N. Y.

Medical Items and News.

Prizes by Medical Society, State of New York.—At the Annual Meeting of the Medical Society of the State of New York, held in Albany, February, 1870, a prize of one hundred dollars was offered for the best essay on any medical subject. Also a prize of one hundred dollars was offered by Dr. Hiram Corliss for the best essay on the Cause, Prevention, and Cure of Tubercular Phthisis. Both essays must be sent to one of the Prize Essay Committee by the first of December next, and be subject to the regulations of the Society regarding Prize Essays, as found on page 71 of the Transactions for 1869.

Wm. H. Bailey, M.D.,
Secretary.

NEW YORK TUMOR DISPENSARY.—At the meeting of the Trustees of this Institution, on the 18th of June, the following officers were elected: Pitt Cooke, President; D. J. Justice, Vice-President; Nath. Jarvis, Jr., and John B. Van Vliet, Secretaries; D. W. Mannering, Jr., Treasurer. *Attending Surgeon*, J A. Hagy, M.D. *Consulting Surgeons*, T. Addis Emmet, M.D., and J. C. Nott, M.D. The trustees will open the Dispensary at 101 East 30th st., cor. 4th av., from 9 to 12 A.M., for the benefit of indigent persons afflicted with cancers, tumors, and diseases of a kindred nature.

NATIONAL MEDICAL CONVENTION FOR THE REVISION OF THE PHARMACOPŒIA.—At the late session of this Convention at Washington, D. C., May 4th and 5th, the following permanent officers were elected:—President—Dr. Jos. Carson, Philadelphia; Secretary—Dr. John C Riley, D. C.

The subjoined committee were appointed to revise the Pharmacopœia, with Dr. Carson, President of the Convention, as Chairman:—Dr. G. B. Wood, A. B. Taylor, J. M. Maisch, Dr. R. Bridges, Philadelphia; W. M. Smith, N. Y.; A. E. Ebert, Chicago; J. T. Moore, Baltimore, Md.; G. F. H. Markoe, Boston, Mass.; Dr. J. C. Riley, D. C.; Dr. J. C. Jenkins, Louisville, Ky.; Dr. C. A. Lee, Buffalo, N. Y.; Dr. J. S. Wellford, Richmond, Va.; W. F. Wentzell, San Francisco, Cal.; W. S. V. Ruschenberger, U. S. Army and Navy.

ORGANIZATION OF THE BOARD OF POLICE SURGEONS OF New York.—A meeting of the Board of Police Surgeons was held June 27th, in their rooms, at the Central Police Office, when an organization was effected in accordance with the rules of the Board of Police, by the election of the following officers:

Drs. Fessenden N. Otis, President; Patrick W. McDonnell, Vice-President; Martin Freligh, Treasurer, and Alfred N. Beach, Secretary.

THE WEST VIRGINIA MEDICAL SOCIETY held its annual session in Parkersburg, June 1 and 2. Papers were read by Drs. Safford, Sharp, Hildreth, Roemer, Lazzell, and Nicklin. Dr. U. J. Bland, of Weston, is elected President, and Dr. James W. Lazzell, of Fairmount, Secretary. The next place of meeting is at Martinsburg, Va.

SIR JAMES CLARK, Bart., whose death on the 30th ult. was announced by cable, was the son of a farmer, and born in Banffshire, Scotland, in 1788. On leaving King's College, Aberdeen, he completed his medical education at the Edinburgh University. He afterwards spent some years in the navy, and in 1820 settled as a physician in Rome. In 1826 he returned to England and settled in London, where he soon acquired an extensive practice. On the death of Dr. Maton he was appointed physician to the Duchess of Kent and the Princess Victoria. On the accession of Victoria to the crown she appointed Dr. Clark her first physician, and created him a baronet. He was also physician in ordinary to the late Prince Albert. He was the author of works on climate, consumption, &c., and was a member of the senate of the University of London.

M. AUZIAS-TURENNE.—This indefatigable inventor and propagator of syphilization has just died at Paris, and is much regretted by his friends. Although he defended a system of treatment condemned by the great majority of medical men, he cannot be denied the merit of originality and perseverance. The deceased acted in perfect good faith as regards his theories, and honestly defended what he believed to be true. He had often been taunted with refraining from applying his remedy to himself; but he was always silent on the subject. But it was found, say the medical papers, that he had a great number of scars upon his body, caused by inoculations of chancres. He was buried, according to his wish, without any religious rite; and he has directed in his will that his body should be dissected, and his skeleton, carefully set up, he offered to the medical faculty of Christiania, where his doctrines had, in Dr. Boeck, found such a powerful advocate. M. Auzias-Turenne, unlike many promulgators of new medical doctrines, was not in good circumstances, and has died poor.—*Lancet*, June 18.

INSANE PERSONS IN PENNSYLVANIA.—Estimating the population of this State at 3,500,000, the number of the insane will be 5,833—one in six hundred. One-third of these may not need hospital treatment. Deducting these, we have 3,889 for whom some hospital provision is required. The number of patients in the proper hospitals and asylums is about 1,700, so that there still remain 2,189 who are without the only suitable care and treatment.—*Am. Jour. of Insanity*.

THE PHYSICIAN'S EQUIPAGE.—In Queen Ann's reign, no physician with the slightest pretensions to practice, could manage without his chariot and four, sometimes even six horses.

ANOTHER NEW MEDICAL JOURNAL.—A new monthly medical journal, hailing from St. Paul, Minn., containing twenty-four pages—of which fifteen pages are devoted to original papers, has been received and placed on our exchange list. It is to represent the Profession of the North-West, and is ably edited by Alexander J. Stone, M.D., of St. Paul.

A CHEMICAL PRIZE.—The Trinity College Chemical Prize for 1870, is awarded to Mr. Percy S. Bryant, of the Senior Class. Subject—"Artificial Light."

INFANT MORTALITY FROM SMALL-POX IN PARIS.—The Paris correspondent of the *Chicago Medical Journal* writes that this epidemic has clearly shown that the mortality is very great when attacking children during the first year of their existence—ten times greater than between the ages of 20 and 30. It has been especially very destructive to children under the age of three months—thus showing that vaccination ought always to be done as near birth as possible.

DEATHS FROM URINARY CALCULI.—From the "Report of the Metropolitan Board of Health for 1869," we learn that there were only three deaths from this cause in the year 1869. The same number was registered for this cause in 1867; and only nine have been registered in the last four years.

The rate of mortality from urinary calculi in New York may now be stated as being three deaths annually in 1,000,000 inhabitants, or as 129 deaths in 1,000,000 of all that die. In England the rate is seven deaths in 1,000,000 living, or 367 deaths in 1,000,000 of all that die.

It may be that the introduction of the clear Croton water has contributed no small share to this favorable result in New York.

FUNERAL OF SIR JAMES Y. SIMPSON.—At the funeral of this renowned man, celebrated May 13th, the procession numbered upwards of 1700 persons, and 70 carriages followed.

DEATH OF A DISTINGUISHED WESTERN SURGEON.—Dr. Chas. A. Pope, of St. Louis, Mo., and well known throughout this country, committed suicide in Paris on July 5th.

CHARLES SUTHERLAND, Lieutenant-Colonel and Brevet-

Colonel, Assistant Medical Purveyor, U. S. A., is in this city assuming (temporarily) the duties of Chief Medical Purveyor.

Rhode Island Medical Society.—The Fifty-ninth Annual Meeting of this society was held in Providence, June 8th, 1870. Dr. Alonzo Clark, of New York, was elected an honorary member.

The Trustees offer the following prizes for the year 1870:—First, *Ununited Fractures;* the conditions under which they occur, and the most successful method of treatment. Second, *Hydrate of Chloral;* its physiological effects and therapeutic uses.

For the best dissertation on each or either of these subjects, the Trustees will pay the sum of one hundred dollars. Essays must be sent to the Secretary of the Fiske Fund Trustees, Dr. S. A. Arnold, on or before the first day of May, 1871.

James Syme.—This distinguished Edinburgh surgeon died June 27, of paralysis.

A Venerable Medical Practitioner "across the Continent."—Dr. Jacob Bigelow, of Boston, Mass., æt. 84, recently left for San Francisco, Cal., by rail "to get rested."

Cultivation of Cinchona in India.—The cinchona tree is successfully produced in Madras and Bengal. The number of plants at Darjeeling, on an area of 905 acres, exceeds 3,000,000, the increase during the past year being 673,654. The tallest plants were 19 feet high.

University of Prague.—Dr. Hering, of Vienna, has received an appointment to the Chair of Physiology in the University of Prague, formerly held by the late Prof. Purkinje.

Death of a well-known Medico-Legal Gentleman.—Francis B. Cutting, Esq., of New York City, who died on Sunday, June 26, 1870, æt. sixty-five, was at one time one of the most distinguished lawyers in this country.

Dr. Jacob Bigelow, of Boston, Mass.—This distinguished medical man was elected April 6th, 1870, a Corresponding Member of the Medico-Chirurgical Society of Edinburgh.

New York City Physicians.—There are 1594 registered physicians, in good standing, in New York City.

Liestenschneider.—Wm. Liestenschneider, of Collinsville, Ct., was relieved a few days since of a tapeworm thirty feet long; almost as long as his name.

Death of Lady Simpson.—The widow of the late Sir James Y. Simpson died at Killin, Perthshire, Scotland, June 17th.

Prostitution in London.—From the latest advices there are one hundred thousand well-known prostitutes in the city of London.

University of Edinburgh.—Dr. Alexander Simpson, nephew of the late Sir James Y. Simpson, has been elected to the Chair of Midwifery in the University of Edinburgh.

Soap.—The earliest mention of soap is made by Pliny, who declares it to be the invention of the Gauls. The Latin word *sapo*, from which we get our word soap, is said by Beckmann to be derived from the German. Both hard and soft soaps were in use among the Germans; and Pliny describes not only the mode of manufacture from tallow and ashes, but the use of soap as a medicine.

The New York Medical Journal Association.—The Trustees of this prosperous Association have authorized the Librarian, Dr. A. E. M. Purdy, to bind the most valuable sets of American and foreign medical journals which have been accumulating during the last six years.

The majority of the working members of the medical profession of New York City—old and young—are members of this organization, which, although young, is already a rival of the older medical societies.

The regular Friday evening reunions ended with the month of June, but the Secretary, Dr. F. A. Burrall, informs us that there will be an occasional meeting during the hot months, and the members will be notified as usual by the Librarian. The stated reunions will recommence in October.

Manhattan Eye and Ear Hospital.—This Hospital was opened in its temporary location, 233 E. 34th street, New York, October 19, 1869. *Surgeons*—Drs. C. R. Agnew, E. G. Loring, Jr., and D. B. St. John Roosa. *Clinical Assistants*—Drs. O. D. Pomeroy, T. R. Sturgis, and C. J. Pardee. *House Surgeon*—S. B. St. John. Open daily for the poor at 2 P.M.

Abernethy's Dislike to Unnecessary Talk.—People who came to consult this eccentric man took care not to offend him by bootless prating. A lady on one occasion entered his consulting room, and put before him an injured finger, without saying a word. In silence Abernethy dressed the wound, when instantly and silently the lady put the usual fee on the table, and retired. In a few days she called again, and offered her finger for inspection. "Better?" asked the surgeon. "Better," answered the lady, speaking to him for the first time. Not another word followed during the rest of the interview. Three or four similar visits were made, at the last of which the patient held out her finger free from bandages and perfectly healed. "Well?" was Abernethy's monosyllabic inquiry. "Well," was the lady's equally brief answer. "Upon my soul, madam," exclaimed the delighted surgeon, "*you are the most rational woman I ever met with.*"—*Jeaffreson's Book About Doctors.*

Novel Anatomical Preparations in the Museum of the Royal College of Surgeons, London.—Martin Van Buchell's first wife, embalmed by William Hunter; the intestines of Napoleon, showing the progress of the disease which was eventually fatal to him; and the forearms (preserved in alcohol) of Thomas Beaufort, third son of John of Gaunt, Duke of Lancaster.

The Author of Mesmerism.—Mesmer in one year received in Paris 400,000 francs in fees. He died in obscurity on the 5th of March, in the year 1815.

Arsenic Eating in Styria.—The question of the notorious immunity enjoyed by the Styrian arsenic-eaters against the otherwise so fatal effects of that poison has lately been investigated by Dr. Weber, of Freiburg. He first applied himself to find out why the primary symptom of gastritis, which is the first observed when any quantity of arsenic is taken, should be absent in them. Now he finds that the Styrians always take the white arsenic in substance, either alone or with bread or bacon, once or twice a week, and only at the new and full moon. They generally begin with one-eighth or one-fourth part of a grain, and go on with this dose until they find it no longer sufficient to produce bracing effects. They then gradually increase it, and it is only years after having first commenced the use of the arsenic that they are able to take quantities

varying from three to six grains, which to persons unaccustomed to the mineral would be a fatal dose. That no gastritis follows, Professor Weber ascribes to the small initial dose, and the exceedingly gradual increase which takes place. The initial dose causes no inflammation, but only irritation, which, if frequently repeated, leads to thickening of the mucous membrane, and more especially of its epithelial layer, whereby the membrane is effectually protected from a too profound action of the poison. It is, therefore, not surprising that at last doses are easily borne which would produce gastritis in other persons, just as habitual drunkards may, with a certain amount of impunity, take pure alcohol, which would cauterize the stomach of others.—*Medical Mirror.*

Celibacy in Women.—Dr. Maudsley, in his third lecture at the College of Physicians, says:—"Sexual hallucinations, betraying an ovarian or uterine excitement, might almost be described as the characteristic feature of the insanity of old maids, the false visions of unreal indulgence being engendered probably in the same way as visions of banquets occur in the dreams of starving persons, or as visions of cooling streams to one who is perishing of thirst. It seems to be the fact that, although women bear sexual excesses better than men, they suffer more than men do from the entire deprivation of sexual intercourse." This may be quite true, but, of course, it is rather difficult to prove it. Many persons connected with asylums have told us that male epileptics are more frequently thus affected from masturbation than females; and how does Dr. Maudsley know that celibates don't masturbate?

A New Method of Preventing Lead Poisoning.—A communication on this subject has recently been read to the Paris Academy of Medicine from the director of one of the principal glass manufactories in France. In the establishment minium is prepared in large quantity, and, in spite of every precaution, the workmen infallibly succumbed to lead poisoning in a longer or shorter period. Two workmen only, who had been in the habit of drinking a quantity of milk every day, escaped the disease. This fact attracted the attention of the director, who put all the workmen in the place on similar diet. From that time, February, 1868, not a single case of colic has been observed.

Galvanic Amputation.—M. Sédillot recently amputated the penis by means of galvano-cautery. The operation lasted five minutes, and the patient made an excellent recovery.

Post-Mortem Elevation of Temperature.—Few physicians are aware that so far back as the year 1770 the celebrated physician De Haën, of Vienna, observed that an elevation in the temperature of the body occurred in the death-agony, and persisted for some time after death had actually taken place. The observation, however, was soon forgotten, and it is only recently, since attention has been especially directed to the changes occurring in the temperature of the body in disease, that the fact has been re-established. The point has been made the subject of a prize by the University of Berne, and the prize has been carried off by M. Valentin, a relative, we believe, of the well-known physiologist. The following are the principal results at which he has arrived: The development of heat after death is common to all bodies, though varying in degree in different instances. As soon as the development of heat in the body after death is greater than the coetaneous loss of heat by physical causes, an increase in the temperature occurs. This occurs, consequently, either from an increase in the development of heat, or from the concurrence of circumstances diminishing the loss of heat. The post-mortem elevation of temperature primarily results from the persistence of the vital processes which ordinarily lead to the development of animal heat, even after the heart has ceased to beat. Augmentation of these processes, which especially result from certain nervous influences, may cause great post-mortem elevation. The occurrence of rigor mortis, although causing the elimination of some heat, is yet only of subordinate influence on the general elevation of temperature that occurs after death. It is not improbable that post-mortem disintegration and decomposition may to some extent aid in the post-mortem elevation of temperature. The loss of heat after death is, *cæteris paribus*, much smaller than during life, owing to the cessation of respiration, and the diminished evaporation from the skin; and this may also be accessory to an elevation of temperature without the actual generation of heat. The experiments which enabled M. Valentin to draw the foregoing conclusions were made on the dog, rabbit, pig, guinea-pig, marmot, pigeon, and frog.—*Lancet.*

Parchment Paper.—To convert paper into vegetable parchment, immerse it for a few seconds in a cold mixture of one volume water and two volumes sulphuric acid. Wash out rapidly by plunging in a large quantity of cold water, and finally remove all traces of the acid by further immersion in water to which a small quantity of ammonia has been added. To prevent the tendency to contract when drying, it should be attached to a frame while wet, or allow it to dry under a press. Paper prepared in this way is very transparent, and can be used for copying by tracing. It is extensively employed as a substitute for parchment made from sheepskin in diplomas, certificates, patents, and for envelopes.—*Chemical News.*

Retracted Nipple.—Dr. Geo. H. Lyman, Boston, Mass. (*Boston Med. and Surg. Journal*), at a late meeting of the Boston Obstetrical Society, described the manner in which the child's tongue "strips" the nipple between its tongue and upper jaw, as a milker strips the cow's udder with his fingers. He had observed the operation in the mouth of an infant with hare-lip.

He had also related the case of a woman whose nipple was so poorly developed as to be apparently on a level with the breast. After confinement the breast could not be evacuated; the consequence of which was an excessively troublesome abscess. In her next pregnancy the plan was adopted of breaking off the neck of an ordinary wine-bottle (with smooth lips), and binding it on to the breast in such a manner that the circular rim of glass pressed upon the areola around the base of the nipple. This was done for ten days preceding confinement, and the result was most satisfactory. Not only was a deep circular depression made around the nipple, but the latter became more elevated; and the success of the experiment was established by the ease with which the child, when born, accomplished the act of sucking.

Tincture of Gelseminum.—A case of traumatic tetanus relieved by tincture of gelseminum is reported by Dr. Thomas Smith, of Savannah, Ga., in the *Baltimore Medical Journal.*

Spasmodic Stenoses.—Hamburger, of Vienna (*Boston Med. and Surg. Journal*), in his "Clinical Researches upon Diseases of the Œsophagus," under the name *spasmodic stenoses*, describes two forms of spasmodic contraction—*stenosis spastica migrans* and *stenosis spastica fixa.*

Original Lectures.

LECTURES
ON
THE PALSIES
AND
KINDRED DISORDERS OF THE NERVOUS SYSTEM

By MEREDITH CLYMER, M.D.

Lecture IV.

SHAKING PALSY.

General Physiognomy of—Definition—Confounded with other disorders—First described by Parkinson, 1817—Clinical History and Prognosis—Mechanism of Tremor—Causes and Pathogeny—Pathogeny of Tremor—Differential Diagnosis—Treatment. (Three Illustrations.)

You have all probably seen a person somewhat past middle life, yet looking much older than his years, hurrying along with a singular hopping walk, stepping on the toes or fore part of the feet, his trunk bowed forwards, his head bent on the chest or thrust out in a peculiar way, his semi-flexed arms brought closely to the sides, with the hands clasped and pressed against the belly, or if apart, trembling very much, the saliva trickling from the corners of the half-opened mouth, with look agape, and an expression of senile imbecility. If you see such an one attempt to sit down, it will be done with difficulty, as if the joints were stiffened and the act painful, and when done the hands and feet, if not supported, and sometimes the head, will at once set shaking. Such is the physiognomy of the curious nervous disorder called *Shaking Palsy*, or *Paralysis Agitans*, and which will be the subject of this lecture. It may be defined as a neurosis, usually of gradual and insidious onset and unknown cause, though occasionally of sudden seizure and rapid evolution after some moral emotion, as fear, for example; its chief and initial symptom is incessant trembling of one or more limbs, the arms being most commonly first affected; this is accompanied or soon followed by more or less muscular weakness in the shaking limbs; a special feature of its developed stage is a precipitate shuffling or trotting gait; slowly progressive in its course; and ending, if unchecked, in well-marked palsy and general debility, under which the sufferer sinks; and having, so far as we know, no anatomical characters.

The term Shaking Palsy has been always very loosely used; it has been given to many disorders in which tremor is a prominent symptom, but which pathogenetically are not akin, such as some forms of chorea, senile trembling, the tremulous affections of muscles in children, and the tremor caused by certain metallic poisons, as lead, mercury, etc.; and until quite recently it has been constantly confounded with a disease with which it has much in common, but from which it essentially differs in both its clinical and pathological facts, namely, *multiple* or *disseminated cerebro-spinal sclerosis.*

Having to deal in these lectures more with clinical than chronological histories, I shall not detain you by inquiring whether this malady was known to the ancients, or if when Sauvages described his scelotyrbe festinans he meant paralysis agitans,—and if he did he curiously omitted from the account any mention of the chief symptom trembling,—but will tell you that the first separate, intelligible description of shaking palsy was by Mr. Parkinson, in an essay published in London, in 1817, and it has been adopted and copied since by all the systematic writers. Although Parkinson's delineation is both accurate and graphic, he having seen quite a number of patients with the disorder, yet he confounded the neurosis with the organic disease, and this has been done by all the English, and American, and German writers who have followed him. To the French belongs the credit of having differentiated the two diseases, and established a distinct clinical and pathological species of disseminated cerebro-spinal sclerosis.* To those who have had the good fortune to follow Dr. Charcot's teachings at the Salpêtrière Hospital, frequent opportunities have of late years been given of seeing both the clinical and anatomical demonstrations of this important fact; but the first public announcement was in Dr. Ordenstein's thesis, of 1867, and in the published lectures of Dr. Charcot during the following year, 1868.

As I have already remarked, the beginning of this disorder is, in most cases, of such gradual approach that few patients can fix the precise time. Slight muscular weakness or heaviness, generally in a hand or forearm, sometimes bilateral, with a tendency to tremor in the limb on excitement or after exertion, are the first symptoms which attract notice. At the same time, or in a little while, some stiffness in the affected muscles is usually complained of. These symptoms may remain months or years thus limited in degree or extent, or be only shared by the muscles of the lower jaw; I have known the tremor to be for a time only occasional, and for cause, as when the patient is put out about anything, or attempts to lift a heavy weight, or carries a cup or tumbler to the mouth, or extends fully the forearm on the hand, or catches a catarrh; though in most cases there is very gradual but very certain progress both in intensity and the parts involved. But there are many instances in which the seizure was sudden, after some great fright, and the tremor was generalized almost at once. One of Charcot's cases was instantly taken in the street with cramp in the toes of the right foot, which lasted for five minutes. Immediately following this the foot began to tremble, and in five or six months the whole of the right side was affected, and before long the tremor extended to the left side. This patient, a woman, had, however, before the seizure, been subject to fits of trembling when abused by her husband, of whom she was in constant terror. These cases are exceptions, and I shall have occasion to refer again to them when I speak of the causes of this affection. Let us suppose, then, that the first troubles are, as in a case I lately saw, in the right arm, and that heaviness and a tired feeling after use have been complained of, soon followed by constant trembling; after a little while the right leg is attacked, and then the left arm, and not long afterwards the left leg. In other words, the tremor becomes general so far as regards the muscles of the extremities, and occasionally of the head. Sometimes an upper and lower limb of the same side are seized at the beginning, and we have the hemiplegic, or unilateral, variety of the disorder; or the tremor may be in the arm and leg of opposite sides, forming the crossed form of the disease.

Before proceeding further let us study the special mechanism of this prominent symptom, tremor; and first, as it happens in the hands, which we will suppose

* See on this subject, Notes on the Physiology and Pathology of the Nervous System, with Reference to Clinical Medicine. Part I. Disseminated Sclerosis of the Brain and Spinal Cord. By Meredith Clymer, M.D. New York, 1870.

to be in pronation. We have a series of oscillations, constant, quick, equal, and regular, which not only carry the hand from side to side but also in a continuous movement of attempted flexion and extension, so that, to adopt Dr. Charcot's description, the projection of the oscillations is not rectilinear but a sort of elongated oval curve; the forearms being semi-flexed, the effect is very much like the action of a person who is beating a drum. Now as these movements take place in all the articulations of the limb, and with alternately slight flexion and extension in the articulations of the fingers, wrist, and elbow, there is an incessant tendency in the hand to open and close, and when the patient attempts to press the hand of another person the sensation is given of a series of hurried shocks. Sometimes, particularly where the hand is alone or chiefly interested, the thumb moves on the other fingers, as if in the act of rolling a pencil; otherwhile the rhythmic motions of the fingers are of a more complex coördinating kind, as if engaged in crumbling bread. In the lower limbs it is very much the same. The centre of motion for the foot is the tibio-tarsal joint. If the patient is lying down this constant movement of extension and flexion is very manifest, and may continue even when he is standing up, and he beats time with musical precision with his feet. When in the horizontal position the knees in some cases are in constant ab- and ad-duction, often striking against, and bruising each other, and causing excoriations. The head, obedient to the action of the muscles of the neck, wags or nods, or, what is more common, executes a movement between these two, with partial rotation. The tremors may be stayed for a short time by the will or during sleep, or from the effects of chloroform, or by placing the limb against a resisting surface. Intercurrent disorders have caused their temporary suspension, as an attack of hemiplegia, but they return as the palsy disappears. They are increased by the slightest moral emotion, or by any physical effort, as taking hold of anything, rising from a seat, or setting out to walk. After the disease has lasted some time, it not unfrequently happens that the limbs become permanently deformed, and this is particularly the case with the hands, whose special distortions have been accurately described by Dr. Charcot. In the first degree, shown in this drawing (Fig. 1), the nearly extended

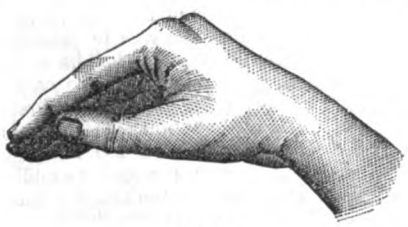

Fig. 1.

fingers are flexed on the metacarpals, and drawn towards the thumb, the position of the hand being much like that when holding a pen, or taking a pinch of snuff. In time this deformity becomes exaggerated; the distal phalanges of the fingers approach yet nearer towards the thumb, and are more contracted, and finish by being completely bent in on the palm, whilst the second phalanges are in a state of permanent over-extension, and the third are slightly flexed on the second (Figs. 2 and 3). This distortion of the hand resembles very much what happens in chronic articular rheumatism.

The tremor has a decided influence upon the volitional acts of the motory system of the affected members. For instance, whilst at the outset the patient is able to

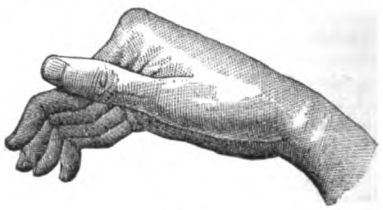

Fig. 2.

Fig. 3.

execute certain movements which require considerable muscular effort, he is utterly incapable of doing any act where nicety and precision of muscular combination is necessary. He cannot write, or, if he attempts it, the scrawl he traces bears witness to the incoordination of the muscles of his hand; he is unable to button his clothes; he cannot seize a glass without probably upsetting it; and when he wishes to carry a cup or tumbler to his mouth, he is obliged to resort to a series of grotesque movements. Sometimes he will place the vessel on a table, and seize the rim with his lips, at the same time holding it firmly with both hands.

The peculiar gait I have already mentioned; the knees are somewhat flexed, the chin generally rests on the breast-bone, or the muscles of the neck may be on the stretch, giving a singular stiffness to the set of the head, the trunk is bent forwards, and in this way the subject goes stepping on his toes or the balls of the feet, at a rapid, almost uncontrollable pace, as if, to borrow Trousseau's expression, he were running after his centre of gravity. This capering, trotting pace is a necessity to maintain the equilibrium; there is a feeling of insecurity all the time, and a constant dread of falling over if the speed is slackened. Some patients seek the support of a wall or railing, and shuffle along close beside it, at times bearing their shoulders against it. Nearly always there is more or less difficulty in starting; once the balance is got, off they shoot. Dr. Graves tells of a gentleman who, when about to walk, was obliged to have himself balanced and set off by some other person, just like a piece of machinery. When once set agoing, and on a smooth road, he went very well for a while, but if the ground became uneven, or he reached a hill, he was irresistibly compelled to run backwards in a right line until stopped by some one. And this brings me to mention a phenomenon which many writers have regarded as characteristic of paralysis agitans, that is, the festination (scelotyrbe festinans of Sauvages), or irresistible impulse to go forward. Now I believe this singular phenomenon to be exceptional in shaking palsy; it certainly may exist independent of it. It should not be confounded with the instinctive "go a-head" feeling which I have just spoken of, and which keeps the patient going because he fears to fall down if he stops or slows, just as it is

safest to ride a stumbling horse with whip and spur. But in festination the patient is urged forward by an impulse he cannot resist, as in Sauvages' case, where he could not turn to the right or to the left till he brought himself against an obstacle, supported by which he would turn his body gradually round and then hurry straight on again. In this case there is no mention of tremors. Other instances are related, and Romberg gives several in which the propulsion was backwards, as in Dr. Graves's case when he was stopped by an acclivity, and he makes it a variety, paralysis agitans retrograda. In one of Dr. Charcot's patients there was a tendency to fall backwards, and Dr. Ordenstein mentions having seen but once festination in a patient in Dr. Guillot's wards. When speaking of the pathogeny of this disorder, I shall have occasion to recur to this curious phenomenon.

The motor troubles, which I have just hastily analysed, are the essential, distinctive features of shaking palsy. The modifications of sensibility, cutaneous and other, are uncertain; most generally tactile sensibility remains natural. Romberg speaks of darting pains, and Blasius of a peculiar painful feeling in the nape of the neck, which he regards as very characteristic. In the cases which I have seen, and those which I have analysed as the foundation of this lecture, these symptoms were wanting. Charcot has, however, signalized a subjective sensation which is often very annoying, namely, a constant feeling of heat or burning in the skin of the back, or over the epigastrim, though sometimes it is felt in the face and limbs. It may be at times so intense as to cause the patient to throw off the bed-clothes; and yet the thermometer shows no increase in the local body-heat. It is not at all times of the same intensity, but seems aggravated by the trembling fits; it may come on in spells, and then disappear for awhile. It is often accompanied with profuse sweating. I have never seen it in shaking palsy; but in two cases of nervous disease, where the lesions were probably in the pons and medulla oblongata, one of which is now under my care, this sensation of cutaneous heat in the back and breast has been very distressing; it is not, however, constant, but only occasional; in one case it was coincident with violent perspirations. The special senses are unaffected; the mental faculties are good (both relatively to age and existing complicating maladies); and the organic functions are, with these reservations, regularly performed. The pulse-rate and body-heat would seem to be, from the observations made at the Salpêtrière, unchanged.

Shaking palsy is a notably chronic affection, and in many cases does not seem to abridge life, lasting for thirty years and upwards. Maclachlan mentions one of the pensioners at Chelsea Hospital, then in his 107th year, and who had been affected since he was sixty years of age. But generally it is more or less regularly progressive, with occasional pauses. After five or six years the tremors become generalized; the muscles of the mouth and tongue are affected; the saliva constantly dribbles; speech is broken; mastication is hard, and sometimes swallowing; motility gradually lessens in the tremulous muscles, and they obey less and less the will; walking is increasingly difficult and finally impossible; and the sufferer is obliged to lie on his couch or bed shaking day and night, except during the occasional snatches of sleep, which are always uncertain and short; his comfortless existence is ended suddenly by some intercurrent disorder, most often pulmonary; or, worn out by want of rest, bad nourishment, incessant suffering, and bed-sores, he sinks slowly, the tremors sometimes stopping awhile before death.

There are no *anatomical characters* proper to paralysis agitans. Wherever such have been reported they have either been instances of the disease known as disseminated sclerosis of the brain and cord, and which I propose to call *cerebro-spinal sclerosic palsy*, or they have been mere coincident lesions, and not the anatomical expression of the affection. Accurate histological examinations have very recently been made of the morbid anatomy of this disease, and, as yet, without result.

The much-quoted case of Oppolzer is clearly one of sclerosis. Dr. Ordenstein has witnessed three autopsies. In the first, in which the disorder had lasted thirty-three years, there was attenuation of the nerve-tubes, and they were separated more than normally from each other. This of course means nothing, and conveys no idea, and had better been left unsaid. In the second there were softening of both cerebral peduncles, lesions of the medulla oblongata, etc., all accidental and not necessarily connected with the disease; and in the third the result was again negative. Ollivier and Charcot have been alike unsuccessful. Leubuscher mentions the case of a young woman who was seized with tremors of the head, arms, and muscles of the face, particularly those of the lips and tongue, difficulty in walking, with a disposition to fall over forward. After death a fibroid tumor was found occupying the whole thickness of the pons varolii. In Dr. G. E. Paget's case of "Involuntary tendency to fall precipitately forwards" (*Medical Times and Gazette*, vol. i., 1855), there was what I take to be a sclerosic patch in the central part of the right crus cerebri.

I have no doubt, as we become more skilled in our investigations of nerve-tissue, that material changes will be made out. So far we must be content to confess our ignorance and put shaking palsy amongst the neuroses.

Let me say a few words respecting the *pathogeny of tremor*, the initial, constant, pathognomonic feature of this palsy. We have first to understand the true signification of the term muscular tone, first used by Blasius to represent the state of permanent contraction of the fibrils when a muscle is apparently in a state of inaction, or is at rest, and by means of which the equilibrium between antagonist muscles is maintained. To explain this condition, some physio'ogists have imagined an inherent vital property of the fibre; "a hypothetical creation as useless as it is manifestly incorrect," justly observes Professor Vulpian. Others again have called in the aid of a special presiding centre of the spinal cord. Dr. Vulpian has analysed, and, I think, probably correctly interpreted, the condition in this way. He says, in his admirable lectures on "The General and Comparative Physiology of the Nervous System:" "Muscular tone is a reflex action, hence not only the intervention of the motor nerves is implied, but also that of the grey substance of the cord, and the sensory or excito-motory nerves. We must therefore suppose all these constantly active, and all our experiments satisfactorily show this to be so." Marey has proved by the myograph that muscular contraction consists of a series of waves, as it were, so quickly successive, that they seem to be continuous, and their break is only shown by analysis.* Now any interruption of this steady active force, de-

* "It is demonstrated then that in a normal (muscular) contraction the will sends to a muscle through the nerves a series of successive impulses, the degree of whose number, frequency, and intensity, constitute the contractions, weak or strong, short or long, according to the effect desired to be produced. The muscles therefore would be naturally the seat of rapid oscillations of the nervous agent, similar to those which so manifestly exist after poisoning by strychnine." (*Du Mouvement dans les fonctions de la vie*)

manding organic integrity of considerable range, is necessarily followed by imperfect function, or tremor. There is no excess of physiological action, no nervous irritability or over-stimulation, but always a diminution of power, a paresis or palsy, according to degree. And this answers completely the objection the late Dr. Trousseau made to calling this disorder a palsy, which he says has been very inappropriately so termed. It is very true that in the earlier stages a patient is able to make muscular efforts requiring considerable energy. If the affection is unilateral or confined to one limb, as an arm, the hand of the damaged side may squeeze the dynamometer with such force as to make it mark several pounds more than the sound hand can do. If the arm be flexed the patient may for a time resist your efforts to extend it against his will, and so on; but this state of things does not last. It is an unnatural expenditure of nerve-power and is soon exhausted. The hand that was opened and shut with seeming facility for some moments gradually ceases to work. This is the case in several other disorders of the nervous system, in which deficiency of muscular ability is conceded. Senile tremor, which in many respects is akin to paralysis agitans, unquestionably goes along with loss of muscular vigor. In old persons a little over-exertion is followed by distressing fatigue, and often with trembling, and the movements become uncertain and jerking. No one certainly attributes this state to increased nervous power. Now in all these instances motor impulses continue to be sent from the centres to the muscles, but capriciously; the current is more or less interrupted; the producing centre works fitfully. Let at any moment some damage to one of the sensory centres happen, as a clot or an embolus, shown by sudden hemiplegia, and, as I have before said, the tremors cease, and gradually recur, as the secondary lesion is removed. This, I think, goes far to establish the correctness of this hypothesis, and it gets additional strength from those instances where tremor is a secondary phenomenon, as after cerebral softening, or tumors, or sclerosis of some of the brain centres.

If pathological anatomy has failed to fix any constant coarse lesion in simple paralysis agitans, it has shown us in cases where tremor was an intercurrent or secondary symptom, what part of the cerebral mass was diseased, and justifies us in making the guess that when its anatomical characters are made out their site will be found in the medulla oblongata, pons varolii, and cerebral peduncles, according to the range of symptoms and their degree.

Shaking palsy is emphatically a disease of advanced life. In five of Parkinson's cases the patients were all over fifty, and the average age was above sixty. Out of a large number of cases among the inmates of Chelsea Hospital, not one was below fifty-five, and the majority were between sixty-five and seventy. Trousseau says that he has seen it in middle life, and once at twenty-seven years of age. I think it most probable that where it has been reported as occurring in young persons the diagnosis has been faulty, and some material lesion of the nervous centres, in which trembling was a conspicuous symptom, has been set down as a case of shaking palsy. In 30 cases analyzed by Ordenstein, 6 were between 30 and 40, 9 between 40 and 50, 5 between 50 and 60, and 10 between 60 and 70. Parkinson, Maclachlan, and others, consider it as unquestionably almost wholly a disorder peculiar to males. The statistics of the Salpêtrière Hospital show this to be an error; and I have certainly seen it as frequently in females as in males. An examination amongst the inmates of our almshouses will, I believe, prove this statement to be correct. Habits of life would seem to have no productive influence; not so, I think, with respect to heredity; a careful analysis of a number of cases will, I believe, show that often several in a family are sufferers. Some authors mention its having been preceded by chronic rheumatism; but when we consider the number of persons past fifty who are thus afflicted and yet escape paralysis agitans, we must have more relative proof to establish the connection. There is more evidence of the influence of wet and damp. In a case reported by Dr. Gull, a man, forty-four years of age, passed the night in wet clothes, and was seized four days afterwards. Romberg tells us of a German who was stripped of his clothes by the Cossacks whilst in a sweat, and left naked on the damp ground for some hours, and who was attacked a few days subsequently; but here there was probably the concomitant factor fear. Dr. Chéron reports the case of a baker, who returning to his lodging, over-heated and perspiring, walked half-an-hour in a drenching rain; he was immediately taken with pains and cramps in his left shoulder, and two months later was seized with tremor in the same arm.

The effects of emotional disturbances, as sudden fright, are unquestionable. Among other authenticated instances, there was for many years in the Salpêtrière Hospital a woman, the wife of a mounted Paris policeman, who, during the early part of Louis Philippe's reign (1832), saw her husband's horse come back riderless to the barracks, and, supposing him killed, at once had a violent fit of trembling, which continued as shaking palsy; she died of the disease in 1865. Dr. Chéron gives two cases where it came on in an arm, on learning unexpectedly a sudden loss of fortune. Dr. Gull has related an instance of paralysis agitans, confined to the right arm, which followed a blow received on the arm four or five months previously. A nervous female, forty years of age, subject to hemicrania and supra-orbitar neuralgia, after a diarrhœa lasting for some months, which reduced her to a state of great debility, had her left leg begin to tremble, and the right was soon afterwards seized, and then the arms. The list of fifteen different causes given by Sanders, in his article in Reynolds' System of Medicine, is trifling and unworthy serious consideration.

The *differential diagnosis* of shaking palsy and senile trembling, and the various toxic tremors, alcoholic, lead, mercurial, &c., I shall more particularly point out when I come to treat of these disorders as a class. As regards disseminated sclerosis of the brain and cord—cerebro-spinal sclerosic palsy—between which and paralysis agitans there exists much clinical kinship, and so much confusion, I shall at this time only refer you to the abstract-table on the board, promising to enlarge upon this subject when we take up together the study of this latter affection.

SHAKING PALSY.	CEREBRO-SPINAL SCLEROSIC PALSY.
Formative stage uncertain, and marked by no constant symptoms; sometimes rheumatoid pains, formication, weight in one or more upper limbs.	Nearly always initial symptoms; almost constantly weakness or heaviness in lower limbs, with vertigo, hemicrania, &c.
Tremor an initial symptom, and constant except during sleep.	Tremor follows paresis, is never initial, and occurs only when provoked by a voluntary movement, and absent at all other times.
Frequently characteristic permanent deformities of the hand.	Late in the disease when the palsy is well-marked, permanent rigidity of the

SHAKING PALSY.	CEREBRO-SPINAL SCLEROSIC PALSY.
	affected limbs, sometimes alternating with chronic spasms (spinal epilepsy).
In most cases no proper tremors of the head, the shaking of the head being communicated by the convulsive movements of the body.	Often tremor of the head when unsupported.
No nystagmus.	Often nystagmus.
Speech broken and interrupted, syllables bounced out.	Speech slow, each syllable pro-noun-ced; scanned as it were.
No spasmodic muscular snatches.	Frequent muscular snatches.
Gait characteristic, and attitude of body peculiar.	Gait and attitude those of a paraplegic.

I will not detain you in speaking of the *treatment* of shaking palsy by cataloguing a list of remedies which have all been found wanting. But we have a means which has in many instances appeared to secure a perfect and permanent cure, and in others to have afforded decided relief for a shorter or longer time. I mean the constant galvanic current. Ten years ago the late Professor Remak published in his work on Galvanotherapy a case of paralysis agitans cured by the constant current, and several cases where the improvement was more or less marked and durable. At this time the therapeutic effects of the constant current had been but little studied, they were imperfectly understood, and Remak's theories and statements were not in good odor. Since his death, with better knowledge of the remedial powers of galvanism, and the absence of personal antagonism, his truthfulness and the correctness of most of his views have come to be generally owned. Many cases of cure or bettering of this heretofore intractable disorder by Remak's treatment have since been published. Dr. Russell Reynolds has reported a case in a man of fifty-six years of age, well-marked though recent, in which after five applications of Pulvermacher's chain (continuous current) of 120 links, daily for one hour, the tremors ceased, and in a month, with an application every second day, the cure was complete. Quite recently Dr. Jules Chéron, of Paris, has had out of seven cases treated by the constant current, two complete cures, two where the improvement was very marked, and which at the time of his report were still under treatment with every prospect of ultimate success, and three in which the general condition of the patients was bettered, but where there was no change in the degree of tremor. Benedikt's success, as stated in his work on Electrotherapeutics, is about the same. I should say from a careful analysis of the cases I have collected treated in this way, and from my own more limited experience with it, that if a happy result is to be hoped for it must be in recent cases, before the tremor becomes generalized, and while it is still limited to one or two limbs. If you try this method in the cases seen in our incurable hospitals and poorhouses, which are of long standing, you may, almost certainly will, for a time improve the general health and make the sufferer's condition more tolerable, but you will fail to exercise much if any controlling or durable influence on the tremor. Do not try faradism; it is at best worthless, and most often hurtful. I should mention that Dr. Axenfeld, of Paris, reports the case of a man, æt. 53, with the developed disease, in whom all the symptoms were suspended for eighteen months, by the simultaneous use of iodide of potassium, sulphur baths, and cauteries to the neck.

The tremors may be temporarily controlled by subcutaneous injections of morphia and atropia combined, and the daily sufferings of a patient worn out by the ceaseless muscular snatches much alleviated. Professor Edward H. Clarke, of Boston, has lately tried in a case of ten years' standing the chloral hydrat, and with good effect. He says the man would lie shaking for an hour or two after getting to bed before going to sleep; that during the three months he had been taking chloral—40 to 60 grs. in divided doses every night—he has slept peacefully for eight hours. It had no effect on the tremors during the day, but it secured him for a third of the twenty-four hours.

But whether we use galvanism or not, be the case recent or of long continuance, do not neglect a general restorative treatment. It is the underlying therapeutic principle in the treatment of all these chronic nervous disorders. Not borne in mind, all specific methods will be more or less failures. In most cases of shaking palsy the general nutrition is bad. Premature senile decay marks this and kindred disorders; old age is discounted; and we must try to regenerate and reconstruct tissue more or less devitalized.

ANTIPHLOGISTIC TREATMENT IN DISEASES OF CHILDREN:

REMARKS BEFORE THE NEW YORK MEDICAL JOURNAL ASSOCIATION, APRIL 15 AND 22, AND MAY 27, 1870.

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Lecture I. Part II.

[Continued from p. 101.]

With these introductory considerations, Mr. President, I come to speak of the principal remedies which are known by the name of antiphlogistics; and I shall first direct attention to

DEPLETION.

Both local and general depletion play an important part in medicine of olden times. They were prominent amongst the antifebriles and antiphlogistics. Of more modern writers, Peter Frank relies in feverish diseases on rest, spare diet, and depletion; Reil and Hufeland confine its indication to genuine inflammatory fevers; Schönlein resorts to it where there is too much reaction on irritation, for its two effects, viz., first, for its diminution of the amount of blood, and secondly for its alteration of the blood. Canstatt depletes for the purpose of counteracting, not the reaction, but the effects it will work on the organs; Traube resorts to depletion before he expects a crisis to take place, hoping for a considerable fall of temperature; and Virchow states that this reduction of the febrile temperature will take place although it be but temporary.

It was early noticed that a depletion, especially a general one, was followed by great changes in the condition of the blood. About the time of Broussais and Bouillaud, the inflammatory character of the blood was considered to be in the fibrine; inflammation consisted in the prevalence of fibrine. They found that the blood, after repeated depletions, would, when studied in the basin, and after cake and serum had separated, exhibit increasing amounts of fibrine. Instead of a warning, this observation proved a new inducement for further depletion. Their grave mistake ought to ren-

der us careful in selecting a remedy which is more than doubtful. We ought not to forget that blood ought to be as normal as possible, if expected to perform its functions in both physiological and pathological organs. Besides, clinical experience shows that blood when getting thin, that is, when containing more than its ordinary amount of water, gives rise—partly from its diluted condition, and partly from deteriorated nutrition of the trophic nerves and the walls of the blood-vessels—to effusions and extravasations. Thus local or general dropsy is the result of a number of debilitating diseases. Swelled face or feet, menorrhagia, and epistaxis are common consequences of general anæmia, or rather hydræmia, and may be cured by beef, iron, and fresh air.

In anæmic children every inflammatory disease leads to serious dangers in short time, and on slight occasion. A rapid pneumonic infiltration in a convalescent or debilitated child is of daily occurrence. After a diarrhœa leading to hydræmia, or during a diarrhœa complicated with an inflammatory affection of the lungs, the danger from this disease is greatly increased. Children are, besides, more subject to hydræmia than adults. For the latter have but to reproduce the elements of their bodies; the child has both to reproduce and to steadily increase. Thus a lack or waste of material is badly felt. Unless you save as much material as you possibly can during the progress of a disease, convalescence will be protracted, incomplete, or interrupted. I have seen many a case of inflammatory disease in children taken hold of with the whole antiphlogistic armament of the school. While the disease was getting starved out, the patient perished with exhaustion or convulsions. The latter are in many cases the results either of directly debilitating treatment or of insufficient nutrition; hydrocephaloid conditions are known to follow diarrhœa or any other affection resulting in organic losses. In fact, most of the brain diseases of infancy and childhood are of a secondary character; primary genuine inflammatory affections are very rare indeed. A very frequent form of encephalitis in the new-born and very young, when at all suspected or recognized, consists in a rapid disintegration of the nerve tissue, and therefore contra-indicates depletion at once. Another frequent form of cerebral affection, tubercular meningitis, is never a primary disease, but always a part of universal tuberculosis. I need hardly add that scarcely ever in these diseases will there be a justifiable indication for blood-letting; and still, just where you expect it least, depletion is frequently resorted to. In a large number of instances I have found leeches applied to the heads of patients suffering from tubercular meningitis, when the pulse was rising beyond 140 or 160 or more, and their temperature was up to 106° or 107°. This condition takes place, and is almost universally found, in the very last stage of the disease; in reality, the symptoms enumerated are those of the last stage—of rapidly increasing paralysis. I take it for granted that a patient with these symptoms will die in from 60 to 72 hours after the rise of temperature and pulse I have mentioned; and need not state that invariably a depletion will render the patient worse, and accelerate dissolution. I am afraid that a good many leeches are still applied more to soothe the attendants than to benefit the patient. Still, if we know that we can do no good, and shall probably do harm by such treatment, we ought to insist upon the public's learning that they cannot pull the stars from the heavens.

The greatest danger arising in the course of inflammatory diseases of childhood and infancy is from exhaustion. This condition, and collapse, will occur frequently where we least expect it; thus, for instance, after protracted cold applications. In this latter case we can remove the cause instantly by withdrawing the application, and the patient may speedily revive; but in collapse from depletion, we cannot so readily remove the cause, and can hardly hope for such speedy recovery from imminent danger. In pneumonia the dangers are various. In its progress the complication with intestinal catarrh is not very uncommon; it is a disagreeable condition, no matter whether it is accidental or the result of mechanical stasis in the ramifications of the portal venous system. At the same time the nature of the disease, abstinence from food, and now and then the treatment also, will rarefy or impair the blood with all its consequences upon the tissues, and the dangers of a new infiltration.

After what I have said of the effect of blood-letting, both local and general, the question arises, are we justified in resorting to depletion at all? Now, it is an established fact, or at least a very general conviction, that when we perform venesection—for the relief of pneumonia or meningitis, for example—we do not relieve the pneumonia or the meningitis itself, but we do relieve the collateral œdema which has taken place in the tissues as yet uninvaded, or but partially invaded, by the inflammation. And by this relief of the collateral congestion and œdema, say of the meninges or of the brain, we may save a patient from approaching dissolution. Such cases are rare; but when they occur, when we have to deal with acute œdema, we must of course resort to depletion in many a case. I recall a case of convulsions where I myself opened the jugular vein. I did not know the cause of the convulsion, but the venous congestion was so evident and so extreme, that I was led to relieve it as soon as possible. I think Trousseau relates a similar case. We know that the immediate danger in such cases depends not upon the primary cause of the affection, but upon the prolonged congestion, which may give rise to effusion or extravasation. To avert these I do not object to venesection—indeed, it may become imperative.

But to depletion as a general antiphlogistic, I must object, and this whether it be made by venesection or by local blood-letting. I know that there is great difference of opinion on this point, and those who disagree with me may do so upon good grounds. Yet that even leeching is often attended with grave dangers, a case which came under my notice will suffice to show. A child with some inflammatory affection and high fever had leeches applied, and the part left under a warm fomentation. At his next visit the physician was told that the fever was entirely gone, and the patient sleeping well. But on seeing the child he found it with a blanched, waxen face, and in collapse—a state of things readily explained on opening the clothing, which was saturated with blood. The patient recovered, and the doctor was *naïve* enough to attribute the recovery to the accident of the profuse hæmorrhage. I know that we often hear of plethora, of surplus of blood; if such a condition ever occurs, it is certainly not in infancy. At that period any surplus would be sure to be used to build up the body, to contribute to growth.

In full accordance with the remarks you have been so kind as to receive to-night, I shall add as a practical contribution, which is but the result of my theoretical convictions and some clinical experience, that I seldom resort to depletion in inflammatory diseases of infancy and childhood. I do not remember a case of pneumonia in which I have applied leeches, for many years. Nor do I believe that my statistics have been impaired by my sparing blood. Meningeal and cerebral affections are, at least with us, mostly of a seconda-

ry character, and seldom require direct depletion. They sometimes do, I feel sure; but generally I think, wherever extensive derivation is really indicated, the immense surface of the mucous membrane of the intestinal tract, not to speak of skin and kidneys, appears of greater importance and promising of more effect, than a local depletion about the head. After all, the general principles laid down by Johannes Munster as early as 1604, appear to be correct even in our times. Clinical observation had done for his judgment, as it did for Galenus's, what has been obtained in our times by improved methods of examination and observation, and sounder theoretical reasoning. His opinion concerning blood-letting in children is, as usual in those olden times, fully given in the title of his book, which I here present: "Joannis Munsteri, Philosophi ac Medici Heilbronnensis, Disputationum περὶ παιδορλεβοτομίας Libri V. Quibus saluberrimum Galeni, Medicorum Principis, decretum De non mittendo pueris infra XIV. annum sanguine, pro Alexandro Massaria Vicentino, adversus Horatii Augenii à Monte, sancto virulentas in eo argumenti genere calumnias, enormiaque sophismata, defenditur. Typis Cellianis. Anno 1604."

COLD.

The medical use of cold in feverish and inflammatory diseases is by no means of quite recent date. The first authority who is generally credited with its extensive administration for the purpose of reducing the increased temperature is Currie (Medical Reports on the Effects of Water, Cold and Warm, in Fever and other Diseases, 1797), whose opinions on the indications in the treatment of fever are clearly indicated in the following sentence: "Though I am far from thinking that fever consists merely of a series of phenomena originated in a morbid accumulation of heat in the system, yet this symptom evidently occurs more or less early in that disease." After Currie, the cold-water treatment disappeared for some time, in consequence of the public prejudice, but modern experience and experiments have installed it again into its rights. Reil, already, knew the double effect it had, in both cooling and stimulating; Kolbany, Horn, and Fröhlich appreciated it; and Gietl used it extensively, in 1843, in a typhus epidemic raging at Munich. Brand, Ziemssen, Bartels, Jürgensen, Liebermeister, and Küchenmeister have since enriched the literature with, in part, excellent monographs on the subject, especially with regard to the use of cold water in typhoid and typhus fevers; and the literatures of other countries are gradually following the lead of the Germans on this topic.

At this opportunity I should not omit to credit an older author than any of them, with what is due to his memory. I do not remember to have met with an allusion to his writings. I refer to: "*A Letter from Dr. Glass to Dr. Baker, on the means of procuring a distinct and favourable kind of small-pox, and on the use of cold air and cold water in putrid fevers.* London, 1767." On p. 32 sq. of his pamphlet, Dr. Glass has the following:

Hot stimulating medicines, cold air, and cold water, properly used together, are the most effectual means to compel the heart, arteries, and fibres to exert their utmost force; and these have been very successfully used in malignant fevers, attended with excessive lowness and faintness. At Gombron, according to Sir John Chardin's account, the extremely hot, close, and suffocating air produces dysenteries and malignant fevers, that prevent this place from being inhabited for one-half of the year. "Sir John Chardin himself was seized in the night with a violent fever, three days after he left Gombron, and grew delirious within a few hours. The next and following days he had such fainting-fits that all who saw him in them, thought him actually dying . . . . . On the fifth day treatment was commenced, while a French surgeon, whom Sir John had with him, thought he had no chance of recovering. . . . At nine o'clock the apothecaries' servant brought the medicines that were ordered, and staid to administer them. The first thing he gave him was near a pint of emulsion, made with the cooling seeds; and soon upon it, an incredible quantity of a cordial confection, that contained all kinds of antidotes; and some time after, about a quart of a nauseous, bitter, purging liquor; and as soon as this was got down, so much of the cordial confection as he took at first. These medicines, which were taken within the space of an hour, soon increased his heat and thirst to an intolerable degree. His attendant then told him he might drink as much, and as often as he pleased, and mixing for him barley-water and willow-water in a large china bowl, and putting a large bit of snow into it, he gave him the bowl when the snow was almost dissolved, that the liquor might be drank as cold as possible; and he supplied him with this exceeding cold and pleasant liquor as often as he had an inclination to drink, which was very frequently, during the whole time his fever lasted. The bed on which he lay was placed on the ground, in a large airy hall, the floor of which was every now and then plentifully sprinkled with cold water, so that it stood in pools all over the room. But his fever still increasing, the apothecary directed him to be taken out of bed, and laid on a mat with nothing at all to cover him but his shirt, and at the same time employed two servants to fan him without intermission. All this, however, made but little or no alteration, for his heat seemed to be as intense as ever. Two large buckets of fresh cold water were then ordered to be brought, the patient was set on a chair, and supported by a servant on each side, whilst his apothecary poured the cold water on his thighs, legs, and feet, beginning at the upper part of the thighs, and proceeding gradually to the extremities. After this, he poured cold rosewater on his head, face, neck, arms and breast."

Sir John instantly improved, but next day the fever returned, though in a milder form. A similar treatment was resorted to, and Sir John lived to tell his own story. Dr. Glass then goes on saying, p. 37:

This uncommon and surprising practice so effectually employed in curing a burning fever, accompanied with excessive weakness and faintness, in a very hot, sultry climate, may possibly, if duly considered, point out to us a more successful method of treating our putrid malignant fever than that which is at present most commonly used. . . . Our most prudent and experienced physicians, in order to avoid opposite errors, content themselves with prescribing mild cordial diaphoretic medicines. But then nature is almost left to struggle by herself against a very violent disease, having but little assistance from art, either against the putrifying heat, or intolerable faintness. Whereas, by imitating the Persian method, a physician will have it in his power to command the feverish heat, and may restrain and lessen it, and, even though increased by hot cordial medicines, to what degree he thinks proper. . . . Hence it appears that such cold applications, carried no farther than to keep the feverish heat within due bounds, concur and co-operate with hot stimulating medicines in increasing the power, action, and force of the heart and the other vital parts.

On p. 42 we read the following:

Such practitioners as are prejudiced in favor of the common method, and believe that the only safe way of treating malignant fevers is to keep the patient, if possible, in a gentle breathing sweat until the disease is carried off by it, will probably be surprised to find anything proposed in favor of an empirical practice, that shuts up all the pores of the skin at once, and totally stops the evacuation which they are so solicitous to encourage and promote. But it is certain the most rational of the Greek physicians, in order to extinguish the intense heat of ardent fevers, when they were at their height, had recourse to cold water. Of this they sometimes gave very large and frequent draughts, and sometimes they plunged the patient into it. It is, however, true, that they always expected a profuse and critical sweat would suc-

ceed; and it was to answer this intention that Hancock likewise gave cold water in fevers.

But some years since, as Professor Cyrillus informs us, a new method of using cold water in acute malignant and destructive fevers was introduced by the Neapolitan physicians, which is this: As soon as the dangerous symptoms appear in the advanced state of the disease, the patient, after fasting some hours, must drink every hour, or once in two or three hours, a pint or two of water cooled with snow. . . . If there should be at any time an appearance of sweat, it must be immediately suppressed, by making the water that is to be drank, colder, and giving it in a larger quantity; by uncovering the patient and exposing him to a current of cold air, and by fanning him. Nay, some have gone so far as to sprinkle snow itself powdered on his skin. . . . See Philosoph. Trans., No. 410. Abridg. by Eames and Martyn, vol. viii., part iii., p. 655.

Relating the experience of Dr. Brocklesby, in his *Medical Observations*, p. 66, concerning the favorable course malignant fevers took in cold and exposed sheds, while the rest of the soldiers lying sick in better quarters did very much worse, our author adds, p. 49:

In all the barns, cottages, and rooms belonging to the castle, which were closer and provided with fires, it may be taken for granted that the air was kept at least moderately warm, since it is the opinion of all persons who are employed in attending and nursing the sick that the pores of the skin ought to be kept open in all fevers, and in all other acute distempers. But the keen cold wind of the forest having a free passage through the openings left between the boards of the shed, the sick lodged in it must necessarily have been exposed to extraordinary cold. Now, as warm air and very cold air are so powerful and contrary agents, it is reasonable to conclude they must have produced very different effects on the sick, and the event was that in all the hospitals where the air was warm, remarkably more died than in the shed where the air was very cold, though treated exactly in the same manner in every other respect. Hence it seems that the amazing salutary effects of the latter were owing to extraordinary cold air.

From the preceding facts and observations may we not venture to infer that it is not enough for patients who are sinking in putrid fevers to have the air they breathe continually renewed, for this is done in rooms that are kept warm or hot by a constant fire; but that we ought to procure for them a current of cold air, which may, together with the assistance of other means, effectually cool, refresh, and strengthen them, especially when great danger is apprehended from lowness and faintness with heat. And we have, I think, good reason to expect more success in pursuing this method, ... than by going on in the more beaten track. . . . .

Thus, clothed in the scientific language of the last century, Dr. Glass arrives at a number of practical conclusions of great importance. It is not his fault, nor that of those who proclaimed the same truths, that they have been forgotten, denied, or proscribed.

The beneficial influence of cold air is aptly alluded to. If ever there was a murderous weapon in the hands of both physicians and public, it was the heat of the sick-room. The prejudiced opinion that the disease could or must be eliminated through the skin, gave rise to the close and heated temperature in which patients suffering from inflammatory, or typhoid, or eruptive fevers, were broiled before they could perish *lege artis*. Cold, in the shape of cold or cool air, will come under the head of simple dietetic agents; in the shape of cold water, or ice, it may be classed among the remedies proper.

Having thus briefly referred to the history of the employment of cold as an antiphlogistic, I may, at our next meeting, be permitted to offer some clinical observations upon the subject.

Original Communications.

TRISMUS NASCENTIUM.

By JAMES S. BAILEY, M.D.,

ALBANY, NEW YORK.

This disease is generally fatal, and seldom seen in this climate. Only three cases occurred in this city during the year 1868, in a population of about 80,000 inhabitants.

They were as follows:—

Case I.—Dr. C. D. Moscher was called to assist a midwife in a protracted case of confinement. The patient was a stout, robust German woman, and had been in labor four days, during which time she had lost a large quantity of blood. On examination he found the presentation natural. There was partial placenta prævia, a portion of the placenta being detached and resting between the head and the pelvis. The doctor immediately turned and delivered; in doing so, he was compelled to use considerable force. The child nursed, and seemed well until the 8th day, when symptoms of trismus commenced—the spasms increasing in severity and frequency as the disease progressed.

The jaws were never entirely closed, the end of the little finger could at any time be introduced between them, but it required force to separate them beyond a certain point. Opisthotonos was well marked. The cord separated upon the 6th day, and the umbilicus had a healthy appearance. The child died upon the 15th day.

Case II.—Mrs. M——, an Irish woman, was delivered by a midwife of a large girl child, which seemed quite promising until it was seized with trismus upon the evening of the 9th day. The first symptoms observed were, the child refused to nurse, moaned, and seemed languid, being in a disturbed sleep most of the time. The pathognomonic symptoms became well marked during the second day. The stools were frequent, and of a dark greenish color. The eyes remained partially open, and its hands were tightly clinched upon the thumbs. The cord fell off upon the 5th day. The navel looked raw and inflamed and tumefied, was scarcely healed when the child died upon the 17th day. There was very much emaciation. Two days before its death its right side was quite cold, and its back presented a livid hue.

Case III.—My brother, Dr. Wm. H. Bailey, invited me to visit with him a well-developed male mulatto infant which seemed in every respect healthy until the 5th day, when its mother observed it was exceedingly nervous, starting at the least touch or noise, refused to nurse, and seemed drowsy. The next morning there were contortions of its mouth, with foaming mucus exuding. Upon examining its jaws they were found to be locked. The spasms were aggravated by trying to nurse it. The symptoms were fully developed in the course of twenty-four hours. During the paroxysms there was extreme lividity of countenance, and it seemed as if the eyes would be forced from their sockets. The cord separated upon the 7th day. The umbilicus remained dry and inflamed, without suppuration. Its bowels were regular, and the stools were natural in appearance. Death took place upon the 9th day. No post-mortem was allowed in either case.

The causes assigned for trismus are various. In certain localities malaria is supposed to be a strong predisposing cause; badly ventilated apartments and lack of cleanliness are supposed by others to act thus. Many

attribute it to irritation and inflammation of the navel. My observations on several hundred cases, treated in the Southern States, have convinced me that neglect and mismanagement of the umbilicus is a strong exciting cause, and that in consequence a traumatic condition has been established.

The history of the foregoing cases amply establishes this fact. In Dr. Moscher's case, although at death the navel seemed healthy, according to his statement, during the delivery there must have been some dragging upon the cord, perhaps producing some rent or tear at its junction with the abdominal integuments, for trismus was developed about the time we should expect it from local injury. The loss of blood may in this case have aided somewhat by enfeebling its constitution, and thereby leaving it less power to resist this morbid influence.

In Case II. there was inflammation and tumefaction of the umbilicus. Case III. also gives a faithful representation of the condition of a wound about the time traumatic tetanus is developed. Vitiated atmosphere and want of cleanliness in these cases could not be considered as producing it, for the apartments were cleanly and well ventilated, and in this city we are free from vegetable miasm.

Progress of Medical Science.

CHAMBERS' LADDER OF MEAT-DIET FOR INVALIDS.—Dr. Thomas King Chambers, of London, publishes in his valuable work on "Indigestions" the following meat-diet for the sick:—

Whey; milk and lime-water; milk and water; plain milk; milk and sago; milky rice pudding; beef tea; plain mutton broth or chicken broth; Scotch broth; turtle soup; sweetbread (the thymus gland of the calf); boiled fish, especially water souchy; boiled partridge or boiled chicken; mutton chop, grilled in the air, and without fat; roast joint of mutton.

Roast joint of mutton is the Promised Land of the convalescent; when he arrives at that it is a matter of time and strengthening the stomach by occasional tonics, for him to come to the digestion of anything within the scope of his birthright. And even if he has to stop at roast joint of mutton, he will stop at a very good thing.

RECIPE FOR PREPARING BEEF-TEA AND SOUP FOR THE SICK.—Make the cook understand that the virtue of beef tea is to contain all the contents and flavors of lean beef in a dilute form; and its vices are to be sticky and strong, and to set in too hard a jelly when cold.

When she understands this, let her take half a pound of fresh-killed beef for every pint of tea she wants, and carefully remove all fat, sinew, veins, and bone. Let it be cut up into pieces under an inch square, and set to soak for twelve hours in one-third of the water required to be made into tea. Then let it be taken out, and simmered for three hours in the remaining two-thirds of water, the quantity lost by evaporation being replaced from time to time. The boiling liquor is then to be poured on the cold liquors in which the meat was soaked. The solid meat is to be dried, pounded in a mortar, and minced so as to cut up all strings in it, and mixed with the liquid.

When the beef-tea is made daily, it is convenient to use one day's boiled meat for the next day's tea, as thus it has time to dry and is easiest pounded.

Some persons find it more palatable for a clove of garlic being rubbed on the spoon with which the whole is stirred. I prefer a bit of celery heated in it. Good soup is that which is most like this beef-tea, and is a very digestible article; bad soup that which least resembles it, is to be avoided as poison.—*Chambers on "Indigestion."*

POISONING BY BINIODIDE OF MERCURY.—M. K. Taytor, M. D., Asst. Surgeon U. S. A., Fort Gratiot, Mich. (*The Boston Med. and Surg. Journal*), alludes to a case of poisoning by biniodide of mercury, and as this drug is becoming a popular remedy in the treatment of diseases of syphilitic origin, and mistakes are liable to occur, it would seem necessary that toxicologists should give this subject a more thorough investigation, and indicate to the profession some additional means of counteracting its baneful effects. So far as his means of judging goes, the employment of liquor potassæ, solutions of carb. potassa, extemporaneously prepared, lime-water followed immediately by bicarb-potassa, and the sulphide of ammonia or potassa, the latter being the better (as it can be administered in doses of five or six grains, largely diluted, with safety), followed by emetics or the stomach pump, constitute the chief antidotes.

The extreme rarity of casualties of this kind—no cases being reported, according to the leading works on medical jurisprudence—has led to neglect on the part of the toxicologists and chemists in determining more explicitly, in varying emergencies, the best course to pursue in the treatment.

CATHETER IN THE BLADDER IN PLASTIC OPERATIONS.—Prof. G. Simon (*Deutsche Klinik*) finds in plastic operation on the urinary or sexual organs, that it is unnecessary to leave a catheter in the bladder so long as the urine is acid, whilst such operations should not be performed, if possible, when the reaction is alkaline.

THE POWER OF ELECTRICITY.—According to M. Sedillot, a current of electricity passed through red-hot platina wires or plates cuts through tissues as easily as a bistoury.

SHOULDER PRESENTATION—VERSION IN THE POSITION ON THE KNEES AND BREAST.—Dr. A. W. Lueck, of Mayville, Wis. (*The Med. and Surg. Reporter*), was called in a case of labor, to a German woman, multipara, aged 35, with her sixth child, who, while performing her household duties, was suddenly confined. On examination, the left hand of the child was found reaching out of the vulva as far as it possibly could; the face of the child was in the right iliac fossa, and the shoulder-joint far down in the lower strait. The contractions of the uterus were very strong. Although the liquor amnii had been drained for nearly 24 hours, and the uterus had forcibly contracted for over 12 hours, he first tried version in the usual position; the patient on her back, at the edge of the bed. But the child was so wedged in between the bones of the pelvis, that it was impossible to introduce his hand into the cavity of the uterus. Remembering the suggestions of Dr. C. C. Hildreth, (*Am. Jour. Med. Sciences*, April, 1866), he changed the position of the patient into that of the breast and knees, and was surprised to find how easily the hand was introduced and the child lifted out of the pelvis. The uterus was wrapped around the child as tightly as a bandage around a broken limb, but the turning was accomplished, and the child delivered dead.

The patient stood the operation well, but when it ended she became cold and almost pulseless. Stimulants were liberally administered, but it was not till after five hours that reaction took place. He repented not having given her an anæsthetic before version; the shock would have been less, and the operation might perhaps have been facilitated by it (that is, if the uterus relaxes

under the influence of an anæsthetic). For Dr. Lueck this case had another point of interest. Before commencing any obstetrical operation, he always ascertains how long since the bladder and rectum have been emptied. In this case the enquiry was made, and the answer was:—"I have just passed water a little before you arrived." This was taken for "legal tender"—which he ought not to have done—and did not introduce the catheter. While turning, the bladder was emptied of about six ounces of urine. He now thought of nothing less than of having caused a rupture of the organ. The patient is now well and perfectly sound. This occurrence has impressed the operator so deeply, that he will never trust the statement of a patient.

THE PHYSIOLOGICAL ACTION OF PROTOXIDE OF NITROGEN.—It has been a disputed point ever since the protoxide of nitrogen came into use as an anæsthetic, whether its action depends upon oxidation or whether the carbonic acid generated either by the ordinary disintegration of tissue, or by super-oxidation, produces the anæsthesia.

Dr. John J. Colton, of Philadelphia, Pa. (*Med. and Surg. Reporter*), having administered this gas to many thousands of persons, having inhaled it in his own person hundreds of times during as many successive days, and having carefully watched its effects upon the system under the greatest variety of circumstances and conditions, maintains that its action must depend upon oxidation, and that the indications of asphyxia (slight in ordinary cases) are merely an incidental effect rather than the main cause of the anæsthesia.

He publishes experiments which tend to establish this theory.

A UTERINE POLYPUS OF EIGHTEEN YEARS' GROWTH SUCCESSFULLY REMOVED.—J. W. Brooks, M.D., Chicago, Ill. (*The Chicago Med. Journal*), recently successfully removed an immense uterine polypus, which presented at the vulva, from a married woman, æt. 52. The dimensions of this amorphous polypus, after the blood was removed, were as follows: Circumference below the constriction, 12 inches; circumference at the constriction, 9 inches; above the constriction, 18 inches; circumference, longitudinally, more than 20 inches. Weight, after the removal of the blood, one pound ten ounces. Estimated weight of blood removed, four ounces. The structure was strictly fibrous. The lady is now in perfect health.

CASE OF OVARIOTOMY—PERFECT RECOVERY.—John H. Tate, M.D., of Cincinnati, Ohio (*The Cin. Med. Repertory*), reports the successful removal of a multilocular ovarian tumor, weighing 35lbs., from the right iliac region of a widow aged 56 years. She believes the tumor to have been occasioned by a caustic injection into the womb, which was given her by a surgeon for the cure of leucorrhœa. The patient is in fine health and spirits, and has not been so well for ten years.

OPIUM IN DIABETES.—Dr. Roberts Bartholow, of Cincinnati, Ohio (*Cin. Med. Repertory*), remarks, if diabetes be a disease of the cerebro-spinal nervous system, the first element of which is a dilatation of the arteries, and the second, alterations in the perivascular areas, it is obvious that the most appropriate remedies are those which have a selective action upon this part of the organism. Hence the utility of opium and bromide of potassium in diabetes.

Opium, one of the old remedies in diabetes, has lately been strongly urged upon the profession by Dr. Pavy, who reports a number of instances of its efficacy. In view of what Dr. Pavy has brought forward in its favor, and of his own observation, Dr. B. regards opium as a remedy of the first importance in diabetes.

VOMITING IN PHTHISIS.—A very common form of vomiting in phthisis is that which occurs during the evacuation of a large cavity. Various means have been employed to mitigate these symptoms without material benefit. The subjoined formula is recommended by A. P. Dutcher, M.D. (*Cin. Med. Repertory*): ℞ Acid. carboliæ (cryst.), gr. iv.; glycerine, tinct. cinnamon, ää ℥ j. M. Sig.—A teaspoonful every 4 hours.

A NEW TREATMENT OF TYPHOID FEVER.—Dr. T. C. Henry, of Cincinnati, Ohio (*Cin. Med. Repertory*), glances at a paper on a new treatment of typhoid fever, presented to the Royal Academy of Sciences of Lisbon, by Dr. Lucien Papillaud, of Lisbon, and publishes the author's management of this fever: Bronchial catarrh, which takes the form of bronchial pneumonia, is almost a constant symptom in this affection. Lesions of the respiratory passages are quite as important as those of the digestive passages. Bronchial catarrh appears entitled to have a part in the medication of typhoid fever, and the remedy is met in the sulphur and mineral waters. The medication consists in making the patient drink in proportion to his thirst, and without fixed dose, alternately, a ferruginous or sulphuretted water, and alimentation beside, regulated to his appetite. The effect of these waters is to restore innervation and nutrition, and repair the dynamic losses caused by the disease.

The carbonated ferruginous waters are almost all arsenical. Reasoning from the favorable action of the ferruginous water, Prof. Papillaud was induced to adopt, early in the disease, minute doses of arsenical preparation, in doses of two millegrammes to one centigramme, and it seemed to exert a happy influence, diminished the intensity of the febrile movement, and in an appreciable manner sustaining nutrition. The notion of pathogenic fermentation as the cause of infectious diseases is becoming more general.

Prof. Papillaud states that out of eighty cases he has lost but three, and that it has been his usual mode of treatment for years. He advises the employment of sponging the body of the patient with acid water, and all the other hygienical measures of the day.

CATHETERISM OF THE LARYNX.—Dr. Weinlechner, of Vienna, considers catheterism of the larynx, next to tracheotomy, the safest and most rational resort in cases of imminent suffocation during croup and diphtheritis.

CONSTIPATION.—Professor Samuel G. Armor, M.D. (*American Practitioner*), in a conversation with his friend, Dr. J. H. Baxter, of the United States Army, was informed that the extract of stramonium is beneficial in cases of constipation.

Prof. Armor has been in the habit of using belladonna in the form of suppository, in constipation; but following the suggestion of Dr. Baxter, tried the extract of stramonium in the same way, and is pleased with the results. It possesses, in his judgment, valuable alterative properties, which commend its use in many cases of constipation, independently of its action on the bowels. Half or three-fourths of a grain of extract of stramonium may be combined with sufficient quantity of cocoa-butter, made into suppository, and used by the patient each night on going to bed. It is admirably adapted in this form to obstinate constipation of nervous females, who suffer at the same time from pelvic irritations from various causes.

It quiets irritation of the uterus and bladder, calms

and soothes the nervous system, allays irritative actions generally, and permits the patient to sleep.

To give permanency, however, to its effects, its use may be accompanied or followed by small doses of nux vomica, or a dinner-pill composed of aloes and nux vomica. Universal and permanent tonic action of the paralyzed muscles of organic life is secured, and the morbid condition of the intestinal glands at the same time corrected.

Ergot of Rye as a Hæmostatic.—Dr. Curran (*Med. Press. and Circ.*) is favorably impressed with the action of ergot, in hemorrhagic cases of typhoid fever. In a case published by him, one full dose of ergot entirely averted the hemorrhage.

Hydrate of Chloral in Cancer.—Mr. Weeden Cooke, Surgeon to the Cancer Hospital, London (*Med. Press. and Circular*), is in the habit of administering hydrate of chloral in the different varieties of cancer, for the purpose of entirely relieving the patient from pain. As a night-draught, he has found 20 grs. sufficient.

But when pain is persistent the 10 gr. dose, three times daily, gives the greatest satisfaction. Squire's method of administration is recommended, viz., the addition of syrup of tolu and peppermint water.

A New Treatment for Burns.—M. Joel, of the Children's Hospital, Lausanne, finds that a tepid bath, containing a couple of pinches of sulphate of iron, gives immediate relief to young children, who have been extensively burned. In a case of a child four years old, a bath repeated twice a day—twenty minutes each bath—the suppuration decreased, lost its odor, and the little sufferer was soon convalescent.

A writer in the *Gazette Médicale* says that a piece of vegetable charcoal laid on a burn soothes the pain, and if kept applied for an hour cures it completely.—*Med. and Surg. Reporter.*

Infantile Mortality.—From a little work on "Infantile Diseases," by Dr. Selby Norton, we learn that in England there is no excessive mortality between the ages of four and five; under one year, the number of deaths forms a quarter of the whole annual mortality of England.

Administration of Brandy before Chloroform.—James Shaw, A. A. Surgeon U. S. A. (*Med. and Surg. Reporter*), writes as follows: "In all cases of surgical operations, I would agree with Dr. Stone, of New Orleans, La. Give a little brandy and water some fifteen or twenty minutes before administering chloroform, as a matter of safety in keeping up the heart's action."

Temperature of New-Born Children.—Prof. Andral believes that the temperature of new-born children is lower than that of adults only during the first half-hour after birth.

Spermatorrhœa.—Dr. C. W. Davis, Indianola, Iowa (*Med. and Surg. Reporter*), had a case of this character, in an old bachelor, who had used a great quantity of bromide of potassium, but found it *enervating*. He advised him to use bromide of ammonium, which is *innervating*, and an excellent calmative on the cerebro-spinal system. One drachm of bromide of ammonium was dissolved in 4 oz. of peppermint-water, and a tablespoonful twice a day was given before eating, to prevent the forming of bromide of starch, which is inert—as a large quantity of our ingesta is more or less composed of amylaceous matter. He also gave him pills composed of:

℞. Strychniæ, gr. ij.
Ext. Hyoscyami, 3j.
M. Ft. pil. No. 50. One pill before each meal.

This treatment was rapidly successful.

Normal Position of the Uterus.—Anteflexion in a varying degree is the physiological condition of the uterus in nearly half of all women.

A Case of Tubular Pregnancy.—W. C. Hunt, M.D., Chicago, Ill. (*Chicago Med. Journal*), publishes a case of tubular pregnancy in a young married woman, who had hemorrhage from the uterus, at intervals of from three days to a week, from Nov. 12th, 1869, until the 14th of January, 1870, when she died.

The autopsy, thirty hours after death, revealed the following facts: The right Fallopian tube contained a fœtus of three months' growth. The placenta attached at or near the junction of the tube with the uterus—a portion of its attachment had separated, and from this the fatal hemorrhage had occurred, rupturing the distended walls of the tube and escaping into the abdominal cavity. This attachment of the placenta was the source of the frequent hemorrhages from the uterus during the last two months. The cavity of the abdomen was filled with two and a half gallons of blood.

The uterus and appendages taken from the above case may be seen in the museum of the Rush Medical College, in Chicago.

Biliary Calculi.—A writer in *The Chicago Medical Journal* extols the use of olive oil in large doses for the expulsion of biliary calculi. He gave a pint of oil to one of his patients, and at the expiration of twenty-four hours more than one hundred biliary calculi passed per anum, more than sufficient in bulk to fill a half-pint measure.

M. Amussat's Lithotomy Forceps.—This surgeon has had forceps constructed the branches of which, when in the bladder, may be brought to a right angle with the handles, so as to seize hold of the stone in the fundus. The mechanism consists mainly in a rack worked at the junction of the branches.

A Case of Congenital Malformation.—R. K. Clark, M.D., South Hero, Vt. (*Boston Med. and Surg. Journal*), reports the subjoined case of malformation:—A boy, aged five years, residing in South Hero, Vt., has only a thumb and third finger, on the right hand, which is cleft to the wrist-joint. He has good use of these, and can pick up a pin or any small article as readily as a child with a natural hand. On the left hand there is a thumb and three fingers; the second finger, with its metacarpal bone, is wanting, and this hand, like the right, is cleft to the carpus, and has the appearance of having been removed by a surgeon.

The lower limbs of the child are normal to the knees. On the right there appear to be two knee-joints, one nearly in its normal position; the other, and the one to which the leg is attached, is on the inner condyle of the femur. Each has a patella. The bones of this leg are rather shorter than normal, and the lower extremity of the tibia is prominent and blunt, with no external malleolus. On the side of the fibula, about one and a half inch from the end of the tibia, is a foot, with its plantar surface towards the knee; on this foot the great toe is united to the next toe. Of course, this leg is worse than useless to the child. The left leg is normal to the foot, where the deformity of talipes varus exists. The child's general health is good, and mentally he appears brighter than most children of his age.

The Position of the Uterus.—This important organ has its correct physiological position, which is exactly

perpendicular to the floor of the pelvis, only in a third of women.

Osteophytes.—In 1850, Follin (*Arch. Gén. de Méd.*) called attention to the presence of osteophytes in the pelves of women who had died in childbirth.

Death from a Uterine Injection.—Dr. J. C. Nott, of New York (*New York Med. Journal*), informs us that Scanzoni published a case of death, in one hour and three quarters, from injecting carbonic acid into the cavity of the neck.

Sub-periosteal Resection.—Dr. W. R. Whitehead, of New York (*New York Med. Jour.*), in his "Remarks on Reproduction of Bone," alludes to a portion of rib reproduced by sub-periosteal resection by Prof. James R. Wood, of this city, who unites a large clinical experience of this subject with a rare ability for observation. This operation was performed for the first time by the Russian surgeon Karawayew, in 1839, and a little later by Textor.

Verneuil's Periosteal Resection.—A sub-capsulo-periosteal resection of the elbow-joint was first performed by Verneuil in 1859.

Black Hairs Turning White.—According to M. Brown-Séquard, black hairs turn white in from two to five days. He also believes that the hair, under peculiar circumstances, can turn white in a single night.

Dislocation of Hip-Joint of Ninety Days' Standing, Successfully Reduced.—Dr. H. H. Kimball, late House-Surgeon, Charity Hospital, N. Y., now of Minneapolis, Minn. (*North Western Med. and Surg. Jour.*), May 28th, 1870, successfully reduced a luxation of the hip-joint of 90 days' standing. The patient, a girl, æt. 10, was supposed by her parents to have had a disease of knee and hip joints. As soon as the child was completely etherized, Dr. K. proceeded to manipulate, adopting the usual method for this kind of luxation, the head of the bone being in the thyroid foramen.

The main point of interest in this case is the length of time that the dislocation had existed prior to reduction; the query naturally follows, whether or no the acetabulum is so filled that there will hereafter occur spontaneous luxation? The patient is still at rest and doing well. The joint is movable and symmetrical.

Carious Teeth a Cause of Disease.—Dr. P. G. Merry, of Stillwater, Minn. (*North-Western Med. and Surg. Journal*), contributes an interesting paper on this subject, and claims that in many cases of phthisis pulmonalis, dyspepsia, conjunctivitis, epilepsy, hysteria, uterine and rheumatic affections, and many other kindred diseases, we may trace their remote origin to a mouthful of carious teeth.

He strongly urges upon the practitioner the absolute importance of as thorough an examination of the teeth as he would make of the lungs, heart, or uterus, while attempting a diagnosis of any affection, whether acute or chronic, and should he find any disorder amongst them, send the patient *at once* to a reliable dentist, that they may be thoroughly overhauled, and the disease eradicated.

He alludes to three cases to corroborate his assertions.

Chronic Urethral Discharges.—F. N. Otis, M.D., N. Y. (*N. Y. Med. Journal*), in an article on "Chronic Urethral Discharges," gives us his treatment as follows: When, after a longer or shorter time, the acute symptoms of an attack of gonorrhœa have subsided, and there remains simply a purulent or muco-purulent, painless discharge, examination should be carefully instituted, with the view to ascertain the exact point to which the disease has extended, and, as nearly as possible, the pathological condition upon which the continuance of the discharge depends.

The indications for treatment are, to apply such local means as are most likely to diminish the excess of fluid, and to stimulate the membrane to a more complete performance of its functions. Solutions of the salts of zinc, lead, and iron, combining the astringent and stimulating properties in various degrees, are found well calculated to meet this double requirement. Vegetable tonics and astringents are found also of value. The more thoroughly the epithelial products in the discharges are degenerated, the more stimulating and astringent is the application required to be. When the discharge is not wholly without pain, he is accustomed to add 2 or 3 grains of the extract of belladonna to the following solution: Sulphate of zinc, or the acetate of lead, alone or in combination, and of a strength varying from one to three grains to the ounce of distilled water. When the discharge is small in quantity and chiefly mucous, the acetate of lead, grains *one* to *three;* the persulphate of iron, grains three to five; tannic acid, from five to ten, are often promptly efficacious.

He has seen positive benefit in quite a number of cases where a solution of two or three grains of phenol to the ounce of water has been used.

Catarrh of the Fallopian Tubes.—Hennig asserts that catarrh of the Fallopian tubes is more common than similar affections of the body, neck, or vagina. West also remarks that it seems doubtful whether affection of the Fallopian tubes does not play a far more important part than we have been accustomed to suppose, in the production of many of the ailments of the female sexual organs.—*N. Y. Med. Journal.*

Treatment of Typho-Enteric Fever.—Dr. A. Given, of Louisville, Ky. (*Chicago Medical Examiner*), for convenience of description, subdivides typhoid fever as follows:—Simple typhoid, typho-enteric, typho-cerebral, typho-gastric, typho-pneumonitis, and typho-malarial.

In the treatment of the typho-enteric variety, our especial attention must be directed to the pathological condition of that portion of the ilium occupied by Peyer's patches. The first effort should be to check ulceration of the intestines, and thereby prevent death by perforation. In order to accomplish this, the morbid secretion and action of the bowels must be arrested; for the constant passing of acrid secretions over the inflamed mucous membrane of the intestines increases the inflammation and hastens ulceration. By far the best agent now at our command is the turpentine emulsion made as follows: ℞. Oleum terebinth., ʒ ij; pulvis acaciæ, sacchar. albi, āā ʒ iij; Aquæ menth., ℥ ij; tinct. opii ʒ ij. Mix, and give a teaspoonful every 2 or 4 hours, until the bowels are checked; then lengthen out the dose to intervals of every 6 or 8 hours, until tenderness has subsided. The turpentine penetrates the ulcerated surfaces, corrects the morbid action, stimulates the tissues, and sets up the healing process. The tincture of opium is beneficial in arresting the peristaltic movement of the bowels, and allaying morbid irritability and susceptibility of the parts; and by its power of arresting secretion, it promotes resolution.

If the turpentine emulsion fails to check the ulcerative process, or disagrees with the patient, then, probably the next best agent that can be given is carbolic acid; from 2 to 4 drops may be administered in a teaspoonful of glycerine or olive oil, every 4 to 6 hours.

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AMERICAN MEDICAL JOURNALISM.

It has often been asserted that American Medical Journalism is much below its deserved level, and that in usefulness and power it does not compare with the same calling in other countries. While we are willing to admit the truth of most of this, we still claim that, considering everything, we do not make such a contemptible show. Our periodicals as a whole are, in character of contents, much below what they should be; but we make the best of the circumstances under which we are placed. There is no excuse to be offered relating to the sparcity of our material for elaborate and exhaustive contributions, but to the difficulty in making them available to the profession. Our hospitals are large, numerous, and well conducted; but those whose duty it should be to work up the facts of experience and place them on record are culpably derelict. Upon such rests almost all the onus of the sin of omission. In this regard the profession of this country are so peculiar that the number of actual writers for the medical press is, comparatively speaking, very small. One of the explanations for this rests in the general low standard of education among us. While a great many who can write will not, a great many more who would write cannot. We have so often heard the avowal to the latter effect that we speak advisedly. Dr. N. S. Davis, of Chicago, in an address before the American Association of Medical Editors, thus refers to this point, and at the same time truthfully sets forth the difficulties which the editors of medical journals are so often called upon to overcome:—

"It is perfectly well known that a large part of those who enter upon the practice of medicine, under our system of medical education, are wholly destitute of that general education and mental discipline which is essential to the formation of a taste for reading and writing. Without an adequate knowledge of the elementary branches of common education, and without the slightest acquaintance with any of the sciences, they have performed the task of reading the text-books in medicine, much as the apprentice performs his task in a mechanic's shop; they have attended the heterogeneous courses of lectures in some medical college, during which they have made imperfect notes of as many formulas or prescriptions for particular diseases as they could, and they enter upon practice with full confidence that these formulas and their text-books furnish all the literature necessary for the rest of their lives. They have no taste for reading, and not the slightest appreciation of the value of medical periodicals.

"And if here and there one of this class is induced to patronize a journal or furnish a contribution, the letter is written in such style that the editor must either throw it into his basket of waste paper, and so far rewrite it, that the author would not recognize it as his, or let it appear in such condition as to disgrace the pages of his journal. It is directly to this imperfect education of the profession, that medical journalism owes both its limited patronage and the literary imperfections which have so frequently subjected it to disparaging criticism."

On the other hand there are a great many well-educated and capable practitioners who will not contribute to any journal, and whose whole time and energies are given to money-getting. This is another class peculiar to the American medical public, and who are in no small degree responsible for the character of the medical literature of the country. In no community is there a greater number of such men than with us, of whose actual existence their brethren would have sometimes reason to doubt. Very many of these are loudest in their criticisms of others who are trying to contribute their mites of experience to the common stock.

Still another cause of the low grade of American medical journalism is to be found in lack of editorial management. Too few of the fraternity devote to the office the amount of attention which the proper performance of the duties pertaining to it involve; with too many the mere notoriety which may attach itself to the name upon the journal is sufficient, while the only work that is done is that of revising the proof-sheets. The address of Prof. Davis, which by the way suggests the foregoing remarks, states this part of the case so truly that we cannot express our own convictions better than by quoting his words:—

"But, in our estimation, no part of our medical periodicals is more deficient than that which is expected to be filled by editorial matter proper. Some of them contain so little from the editorial pen, that their readers would hardly know that they were superintended by such a functionary, except as they see his name on the title-page. Others present one or two pages headed 'editorial,' and filled with facetious paragraphs, personal slurs, news items, and attention to new advertisements. Only a very few out of the whole number occupy what editorial space they have with candid articles, calculated to enlighten their readers on the many important questions connected with the sanitary, social, ethical, and educational in-

terests of the profession. And I think it may be said with truth, that in none of our periodicals do these topics receive the editorial attention that their importance demands.

"It is only through the periodical press that the great body of the profession can be reached. To sit in an editorial chair and occasionally growl at municipal authorities for neglecting sanitary measures; slur medical societies for imperfections in their action; indite facetious paragraphs about ethics; and ridicule the attempts of others to advance educational interests, is, to say the least, a very poor performance of the duties belonging to such a position."

Referring to the imperfect arrangements too often made by those intrusted with the editorial management of the periodical, he draws the following truthful picture:

"The members of the college faculty whose names have been put on as editors, or the ambitious young men whose names occupy that position, have provided no reliable corps of reporters to furnish what can be gleaned from the hospitals and medical societies, if any such exist in the neighborhood; they have no resources for original matter, except the voluntary contributions of members of the profession, and what is equally bad, they have no positive views of medical polity, medical education, or sanitary science, with which to give their own editorial space a positiveness and individuality calculated to attract attention and command respect. By personal solicitation, they succeed in obtaining contributions enough from their friends, to make a respectable show of original matter for the first few numbers; but this resource is soon exhausted, and they are obliged to increase their selections from other journals, to fill up the required number of pages; the fear of offending some interest, whose patronage is needed, deters from doing more in the editorial department than to write commendatory notices of books, or call attention to some new advertisement, until, heartily tired of the enterprise, they discover that they have not *sufficient time* to devote to the work, and either let it die, or induce some new man to undertake it, and go through the same process."

We present the foregoing remarks, and make the extracts, for the purpose of giving our readers an idea of the difficulties in the way of the real success of medical journalism, and the reasons why it does not take its deserved rank in this country. In so doing, we dare not consider our individual management of this periodical above reproach—it would be strange indeed if no criticism would be deserved,—strange if some one could not be found who could not complain of the policy of the journal and its general management; but we should be pained to think that any sin of omission, or of commission, was chargeable to the lack of an intention to do our best.

Reports of Societies.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

ADJOURNED STATED MEETING, MAY 23, 1870.

DR. T. GAILLARD THOMAS, VICE-PRESIDENT, in the Chair.

INTRA-UTERINE MEDICATION.

DR. J. C. NOTT completed the reading of his elaborate essay on *Intra-uterine Medication*, the first part of which was presented at the meeting of April 18th. (See report on p. 183 of our current vol., No. 104.) He at first reviewed with considerable minuteness some points in the anatomy of the uterus, normal and morbid, in their bearing on certain dangers attendant upon intra-uterine applications. We mention a few of them, referring the reader to the paper itself in the *New York Med. Journal* for June. Not only is the mucous membrane of the uterus in immediate connection with its proper fibro-muscular tissue, but the follicles which stud it so closely have possibly an indirect communication with the uterine vessels. The vessels themselves are peculiar, the veins lacking an external coat, their internal being in contact with the uterine tissue; while the large capillaries of the mucous membrane lie very superficial, and in some cases may hang out loose, and nearly or quite bare of epithelium, into the uterine cavity. These conditions clearly afford the greatest possible facility for the absorption of matters, whether septic or medicinal; and, moreover, if the diminutive capacity of the cavity (normally nine to twelve minims) be not borne in mind, and a free return-channel secured, one may easily, even with a graduated syringe, inject fluid or air directly into the circulation through a ruptured vessel. The liability to this accident is of course greatest when, after parturition or dysmenorrhœa, the epithelium or even the entire mucous membrane has been thrown off, leaving the vessels more than usually exposed. This, and not the passage of fluid through the Fallopian tubes into the peritonæal cavity, is the most probable explanation of the violent symptoms which occasionally follow uterine injection. "The peritonæum has no such exquisite sensibility until it has had time to inflame."

That remedies applied within the uterus are very apt to be absorbed is seen in the fact, for example, that the acid nitrate of mercury so employed sometimes salivates within a few hours. If this salt, which at once destroys the tissues it touches, can thus be taken up into the system, much more readily may be a solution of nitrate of silver, for instance, which, though it precipitates albumen, does so in minute flocculi, the albuminate being soluble in a solution of alkaline chlorides, like the uterine secretions.

But there are some cases of violent symptoms attending intra-uterine applications not to be accounted for either by the direct or by the indirect entrance of substances into the circulation. For these we must assume a morbid sensibility of the uterus, like that of the vagina in vaginismus. The ætiology of yet other cases, perhaps the most frequent of all,—in which, a day or two, or a week or two after probing, cutting, or cauterizing the uterus, there is a development of metritis, perimetritis, salpingitis, ovaritis, or general pelvic peritonitis or cellulitis,—is still involved in great obscurity.

In conclusion, the speaker reverted to the position he had taken at the former meeting, that the most important thing in the treatment of endometritis is the fre-

quent cleansing of the membrane from its foul secretions, which else might remain and putrefy within the uterus—would be sure to do so in flexions, where the cavity is enlarged and the outlet narrowed or occluded. For this purpose copious injections must be used, either of water alone or of this impregnated with some solvent of albumen. (Muriatic acid would dissolve not only thick mucus, but even the blood-coagula of persulphate of iron.) To avoid, as far as possible, the risk attending uterine injections, the cervical canal must be dilated, by one means or other, sufficiently to admit a double canula of large size, like the one he had himself exhibited; and the tolerance of the uterus must be either ascertained or brought about, by beginning with the weakest solutions and proceeding very cautiously to stronger ones.

DR. PEASLEE.—In connection with Dr. Nott's previous paper, Mr. President, I expressed my appreciation of its great value and of the immense importance of the subject it discussed. I said that subject presented three questions, each of which demanded the most careful consideration—a consideration which, so far as the limited time would allow, they have received in the paper of to-night. These questions are: 1. In what conditions should intra-uterine medication be resorted to? 2. What applications should be made? 3. How should they be made? I will make a few remarks upon the last of the three.

In order to give my remarks more definiteness, let me revert, for a moment, to the changes in nomenclature which I proposed at the former meeting. The lining membrane of the body of the uterus we agreed to call the *endometrium;* the substance of its walls, the *metrium ;* and its investing membrane, the *perimetrium*, —whence we had *endometritis*, *metritis*, and *perimetritis*. In like manner, the lining membrane of the neck of the womb will be the *endotrachelium ;* the proper tissue of its walls, the *trachelium ;* and its investing membrane, the *peritrachelium*. Inflammation of these parts will be designated as *endotrachelitis*, *trachelitis*, and *peritrachelitis*. The word τράχηλος has already found place in our anatomy (in the musculus trachelo-mastoideus, for example), and we need these new derivatives from it to give precision to our discussions.

Intra-uterine applications are either endometrial or endotrachelial. Dr. Nott has spoken only of the former, of applications to the cavity of the body of the uterus; but those to the canal of the cervix are fully as important, if less difficult to make; and it is often quite as essential to separate the two in practice as to distinguish them in theory. I show here a set of instruments both for endometrial and for endotrachelial medication, which I have been using for a considerable time. It comprises, first, the means of dilating the cervix; secondly, the means of keeping up the dilatation *ab libitum*, for hours or days; and, thirdly, the means of making applications to the lining membrane of the cervix or of the body. These I have devised in order to insure certainty and safety in the use of such applications; for I do not hesitate to say that, hitherto, endometrial applications have been made very much at random, and with uncertain results. If we can now be sure of applying to the endometrium just as much or as little of a medicament as we please, and be sure that any overplus will find ready escape, we have made a material advance.

In the first place, we must, of course, dilate the cervical canal, for the reasons so clearly assigned by Dr. Nott. This is usually effected by the sponge tent, and if the cervix be very firm, that is unquestionably the best means; but if it be in an easily dilatable condition, the dilatation can be completed within half an hour by the set of steel dilators, five in number, which I here present. The largest of them has a diameter of about three-eighths of an inch, and where this size cannot be passed, no endometrial injection should ever be thought of. At a meeting of the Obstetrical Society six or seven years ago, Dr. Kammerer and I found that we had both been experimenting independently upon dilators, and each had been using his own instruments for a year or more, ignorant of the other's. The chief peculiarity of mine lies in a bulb placed an inch and three-quarters from the extremity, so as to prevent unnecessary interference with the endometrium.

The cervical canal dilated, we wish to keep it so while we make our applications; and for this purpose, as well as to limit the applications to the part intended, whether the endometrium or the endotrachelium, I have here three little canulæ, or intra-uterine specula, if you choose.

No. 1, for endometrial injection, is a silver tube, three-eighths of an inch in diameter, and two inches long, having a collar at its vaginal extremity, with an eye for attaching a thread; three fenestræ, side by side, each half an inch long and one-fifth the circumference of the tube, commence an inch and a quarter from this extremity; above the fenestræ the tube tapers, like a Minié ball, to a very small opening directed toward the fundus. You observe that the fenestræ begin so high up that the endotrachelium is completely protected from the action of any fluid injected. It is my view, however, first, that injections, unless of water or some very weak solution, should never be made into the cavity of the uterus—there are other modes of topical medication far superior; and, secondly, that no strong application of any kind should be made to the endometrium, if there is any secretion in the uterine cavity, without previously washing away the secretion, and testing the tolerance of the organ, by these same mild injections. Dr. Nott has given the reasons. The simple repeated washing out of the cavity thus, as preliminary treatment, may sometimes effect a cure when you are not expecting it. To my remark concerning strong injections I would make an exception in the case of uterine hæmorrhage, when, after washing out the clots, it is sometimes necessary to inject solution of persulphate of iron in full strength.

This instrument, like the other two, is passed into the dilated cervical canal either upon a sound or by a pair of long dressing-forceps. If, for any reason, you wish to keep up the dilatation for a length of time, you have merely to apply a tampon, and the instrument will stay in place. I have thus kept it in position for a week. Suppose now that you have done with your detergent injections, and desire to make some more powerful application, you will then have recourse to speculum

No. 2, for the application of unguents or fluids to the endometrium by painting them over its surface. This has the same diameter as No. 1, but is somewhat shorter, penetrating only a quarter or half inch beyond the os internum; it has only two fenestræ, which are opposite each other, very broad, extending from an inch and a quarter above the vaginal extremity almost to the apex (which is a mere narrow strip between them), and placed right and left, so as to guide an applicator toward the cornua; the eye in the collar fixes its position. The best applicator is a springy steel wire roughened at the end and wrapped with cotton. Dipping this in your medicament, you pass it first to one side then to the other, and are perfectly sure both that you have touched every part of the endometrial surface, and that no superfluous drop can be left behind to breed trouble.

Moreover, if you fear the application has been too strong, you can easily mollify its effect by water or whatever bland wash you please. The womb cannot contract and retain the fluid, for any effort it may make to expel the speculum is easily overcome.

No. 3 is for strictly endotrachelial applications, whether by injection or by painting. This is about as long as the last, and has the same calibre; its upper end is closed; the fenestræ, three in number, and each one-fifth the circumference, begin at the vaginal collar and extend upward an inch and a quarter. While effectually guarding the metrial cavity against all invasion, this little speculum, by smoothing out the numerous and deep folds of the trachelial mucous membrane, enables you to command at once three-fifths of its surface in a manner that would be impossible by the armed probe alone; and by slightly rotating the instrument, you have the remaining two-fifths under command.

Incidentally I may add that these intra-uterine specula furnish a means of readily and completely separating the endometrial from the endotrachelial secretion, and obtaining either in a state of purity for chemical or microscopic examination.

Dr. Byrne said that he had lately presented a paper upon the subject to the American Medical Association, and would not anticipate its publication by any extended remarks. Most of the views put forth by Dr. Nott and Dr. Peaslee accorded with the results of his own observation. He had long since come to the conclusion that powerful caustics would best never be injected into the uterus. After long experience in their use he had entirely abandoned them. Latterly he had been in the habit of using milder liquid applications, especially solutions of sulphite of soda, sulphurous acid, tannin, etc. These mild liquids would easily flow out of the uterus if a proper catheter was employed. His own catheter was of peculiar construction, and being of size No. 6, required no preliminary dilatation of the cervix; for wherever intra-uterine medication was demanded there was no stricture of the internal os. The reflux channel was so arranged that, if it became at all obstructed by coagula, it could be cleared by a slight movement of the instrument. The speaker had become fully convinced that in all cases of very troublesome intra-uterine affection there was some constitutional dyscrasia; and that no topical treatment could be of any permanent avail without keeping this in mind and giving the most careful attention to constitutional treatment and hygienic measures.

Dr. Prince could heartily endorse the remarks of Dr. Peaslee. He had, for a number of years, practised dilatation of the cervix by means similar to Dr. Peaslee's, led to do so by one of those failures which are often more instructive than successes. Frequently employing the uterotome, he had been in the habit of keeping the canal open, after cutting, by sponge tents, till a case fatal from pyæmia induced him to discard them. Before this case he had seen others where serious disturbance followed the use of the tents, apparently from absorption of pus; and since then he had always employed a series of bougies to maintain the dilatation.

The speaker could not agree that it was safe to inject persulphate of iron for uterine hæmorrhage. In a case of miscarriage, in a lady of forty-four or forty-five years, where the bleeding was profuse and some astringent was necessary, he had injected five or six drops, at farthest, of Monsel's solution. The pain which followed was more violent than anything he had ever seen; and had he not carried a vial of chloroform in his pocket, he thought the woman would have succumbed to it. He was obliged to keep her under chloroform for an hour and a half. He had not since used the persulphate in such cases, but had found a plug of solid alum answer every purpose. He would never employ strong injections, but would introduce any powerful substance upon the armed stylet as recommended by Dr. Peaslee.

Dr. Chadsey had always opposed strong applications even to the neck or the mouth of the womb. He had many years ago given up the use of nitrate of silver; and he preferred anodyne applications, containing opium and calomel, made, not by injection, but with a brush or sponge, so that they would adhere to the parts. He narrated the case of a woman with cancer of the breast, who was seized with lancinating uterine pains. From the mouth of the womb, which was open wide enough to admit a full-sized silver catheter, there was discharged a dark, grumous fluid. Uterine cancer was diagnosticated. The Doctor injected through a catheter a solution of one part of pure carbolic acid in forty parts each of glycerine and water. Under this injection, with the administration of iodide of potassium and general tonics, the woman rapidly improved.

Dr. Messenger had found great success in arresting uterine hæmorrhage with the preparation lately introduced under the name of ergotine. So far as he had observed its effects, it produced no coagulation; but it arrested the bleeding with more promptness and less danger than any other agent he had employed. It had acted very happily in two cases which had, before its use, given him great trouble.

For making applications to any part of the uterus Dr. Messenger preferred, to the armed probe or wire, a syringe he had had made by Mr. Tiemann. It had a long flexible nozzle of pure silver, plated with gold, terminating in a bulbous extremity pierced with several small holes. The piston was graduated to minims. Wrapping a little cotton about the bulbous end, he introduced it to the exact point desired, and then expelled as much or as little fluid as he pleased. He thought he had thus succeeded in making applications not only to the uterus, but also to the neck of the bladder, more accurately than by any other means. With the cotton-wound wire, even if passed through Dr. Peaslee's speculum, you were apt to leave some part of the fluid, you knew not exactly where.

Dr. Garrish thought women ought to use the vaginal syringe as regularly as they washed their faces. No other application equalled the solution of tannin in glycerine.

Dr. Newmann insisted, with Dr. Nott and Dr. Peaslee, upon the absolute necessity of thoroughly cleansing the uterine cavities before making any remedial applications. Dr. Nott's catheter was admirable for the purpose. He himself employed for injecting the bladder a combination of this catheter with Dr. Byrne's, and he had also used it for uterine injection. He was accustomed to attach it by flexible tubing to the Croton water pipes, hot and cold, so as to regulate the temperature at will, and thus to wash out the cavities very freely. He objected strongly to the use of *cold* water, as he thought it often hardened the tissues much more than the nitrate of silver.

He could not agree with those who considered the nitrate such a dangerous remedy. True, it might do much harm if carelessly used; it could hardly fail to do so if the solid stick were thrust haphazard into the uterus. But if applied with judgment and precision to diseased tissues alone (especially granulations), and to these only long enough to stimulate and not to disorganize them, it was of the greatest value. He had for years used almost daily a solution of one part of nitrate of silver in three of water, and had not yet

found a single instance of harm to the patient. He applied it to the bladder through the endoscope.

Allusion had been made to the very destructive action of chromic acid. That was all true; the speaker had himself seen a mouse completely destroyed by it in a brief time, and even a hair pencil with its quill handle. Yet Dr. Emmet cured his patients with it. He touched none but diseased parts; the chromic acid became chromic oxide, and formed a scab beneath which the healing process went on. The dilated follicular cysts often found in the cervical canal, the speaker had never seen cured except by this means. In such cases, after dilating the canal with sea-tangle, he applied the chromic acid to the cysts, and often a single application was sufficient. Drs. Emmet and Perry even incised the uterus and then applied this acid within its cavity. But none of these powerful agents must be used at random, or kept too long in contact with the parts.

Dr. N. had often been asked whether the endoscope could be used for inspecting the cavity of the uterus. It could be readily introduced; but commonly the secretions of the part so obscured things that it was impossible to see the mucous membrane satisfactorily. It might probably be employed with success if the cavity could first be most thoroughly cleansed.

Dr. Peaslee would say one word regarding the use of the persulphate of iron in metrorrhagia, which he had before incidentally mentioned. He was prepared to defend his own use of it, had time allowed. Having employed the agent in perhaps one hundred cases, he had never seen any harm result, except that in one case it gave great pain. But he confined its use to a particular class of cases, in which there was great debility from loss of blood, and you could hardly excite any reaction of the uterus.

Dr. T. G. Thomas, the Chairman, was called upon, and remarked: I am the more willing to state my own views, because they are so entirely at variance with those I have heard expressed this evening. It requires some boldness, I admit, to take a stand in opposition to such an array of authority and experience as I see before me,—a boldness which I could hardly command, were it not that I have very strong convictions upon the subject. These I hope are not held without reason, as they certainly have not been lightly formed. The subject has always claimed my deepest interest, not only from its intrinsic importance and the fact that it enters so largely into my daily practice, but also because, as a teacher, I feel the weight of responsibility which rests upon me in guiding the practice of others.

Now, my impression is, that intra-uterine injections do not constitute an advance in the treatment of uterine diseases; that they have done and are going to do a good deal of harm; and that, though now they are popular, their evil results will cause them, after a more thorough trial, to be discarded.

In making such an assertion, I must, of course, sustain it by proof. I commenced the use of intra-uterine applications, both solid and fluid, at least ten years ago. At that time I was extremely fond of them, and treated many a case as endometritis of the body which I should now treat as cervical endometritis. One method which I very often employed was that brought forward by Dr. Lente, of dipping a probe into the fused nitrate of silver, and passing it up to the fundus uteri and around the cavity, so as to cauterize its whole surface. Once, after I had made such an application of the solid nitrate, the patient became dangerously ill with the symptoms of cholera morbus, due entirely to this cause. A year or two later, a lady, who had been for some time under my care for corporeal metritis and endometritis, became discouraged, and at my suggestion consulted one of the best gynæcologists of this city. I saw her again at the end of a week, when she had a phlegmon, the size of my fist, in one broad ligament. The inflammation had been set up by the introduction of an ointment of calomel through the canula of Dr. Lente.

I have mentioned these cases where solid applications to the cavity of the uterine body have done injury, merely to illustrate the fact that solid applications, which are less harmful than fluid ones, are, when made to this locality, not free from danger. Let us see how the matter stands with the injection of fluids. Dr. Nott has said that the entrance of any injected fluid into the peritonæal cavity cannot produce a serious effect immediately, but time must first elapse for inflammatory action to become established. In this statement I think that the Doctor is in error. A case which I saw some years ago in company with Dr. Peters, whom I see present to-night, bears upon this point. The lady was known to have a simple ovarian tumor, I think about as large as the fist. Called to her in the night, I found her almost in collapse, saying she was sure the tumor had broken. She was right, and her terrible prostration was due entirely to the entrance of the fluid of this benign ovarian cyst into the peritonæum. I recall the case of one of my students, who in lifting a trunk felt something give way, was at once violently collapsed, and finally died of peritonitis. The cause was in all probability a rupture of the vermiform appendix.

My own impression is that where intra-uterine injection is practised, a certain number of the cases will die from penetration of the fluid through the fallopian tubes. This certainly does produce the most intense agony, and the most sudden and fearful collapse. I remember that, while making such an injection, by means of a syringe with a screw-piston, each turn of which forced out a single drop of fluid,—when I had thrown but five drops into the uterine cavity, the patient exclaimed: "My God, doctor, you have killed me." Her sudden pain and terror seemed to me due to the passage of the fluid into the peritonæum—nothing else could have been quick enough. She went through a tedious course of pelvic peritonitis, barely escaping with her life.

But it will be said that in these cases the cervix was not dilated; had it been so, no evil would have resulted. I reply that the very dilatation so coolly talked of theoretically is itself attended by danger. Within a fortnight past I have had one of the most melancholy cases I have ever met in practice. The lady had come to me three months before with anteversion of the uterus. I had treated her with an anteversion pessary, and now considered that part of the treatment completed. So I told her, "I am to-day going to dilate the neck of your womb, and to do nothing else." I did this at my office, using three of Dr. Peaslee's dilators; and she left for her home at Staten Island, promising to write me. This was on Monday, of last week. Tuesday evening I was summoned to Staten Island, where I found this lady with violent pelvic peritonitis, of which she died on Sunday evening. I think the mischief was done by the dilatation of the neck of the uterus. Yet I am very sure that the dilators were passed with the requisite skill; for I spend much of my time in this practice, and this operation is one to which I have constant resort.

Some time since a gentleman wrote me, from St. Paul, Minnesota, that he had known a case where a small amount of a solution of iodine was injected into the cavity of the uterus, and the woman died suddenly of peritonitis.

Now, these are selected cases, I allow; and it is by no

means a final argument against any procedure that such selected cases should speak badly for it. The question is very different, however, from that in such a capital operation as amputation of the neck of the uterus, for example, which you enter upon expecting, and the patient and her f. ends expecting, that there is at least a chance of a fatal issue. Such an operation is justifiable, and often imperative, as offering the only chance for life, though it may be a very small one. But if the woman be suffering simply from some slightly annoying affection, she does not expect to die from the routine procedure you resort to for its relief; and you have no right to employ any means attended with such hazard.

Again, I see no necessity for intra-uterine injections. My impression is, that the uterus rarely contains over a drachm of fluid; and that it is an error to represent it as often containing a considerable amount of putrescent discharge. But if it have within it such fluid requiring removal, dilate the cervix, and replace the organ, if ante- or retro-verted, or flexed, and what is to hinder the fluid from coming out? The dilatation itself will accomplish much. Then, in addition, if necessary, give ergotine, or ergot, and general tonics; and if required, introduce the cotton-wrapped probe. Every one knows the difficulty of removing the plug of viscid mucus from the cervical canal. For this purpose I keep a supply of little bits of sponge, not larger than my finger's end. which, being wet and squeezed, will wipe the canal nicely, and then be thrown away. This done, I see no difficulty in passing up the probe armed with cotton, and painting over the whole internal surface.

For myself, I never use intra-uterine injections, even for the hæmorrhage of abortion. If we know anything about the pathology of uterine hæmorrhage, we know that it should be stopped by closure of the vessels by contraction of the tissue of the uterus itself. After delivery we all recognize that the only proper thing to do is to empty out the clots and stimulate the uterus to contraction. And even after abortion, I look upon the injection of styptics as a bad plan. Take, as an example, a case which came before me a few days ago. A woman had been bleeding for three months after an abortion. It seemed to me there must be something in the uterus to cause the flow; for, otherwise, what is there in an abortion to keep up hæmorrhage for such a length of time? In such a case, you may take it for granted that something has been left behind. The doctor in charge of the case consented to my dilating the cervix and introducing the curette. I took away a number of little bulbous bodies, remains of the placenta—those little granulations which bleed if you look at them, and pour out blood profusely if you touch them with a probe. The next day the hæmorrhage had completely stopped, and within a week the patient's general condition was greatly improved. I mention this not as a case important in itself, but as a type of many where success may be attained by a comparatively minor procedure—for I esteem the use of the curette as a far less grave operation than the injection of the uterine cavity.

I wish it to be distinctly understood that I have been objecting, not to intra-uterine medication by such means as those mentioned by Dr. Peaslee—the brush or probe, for instance—but to the special form of medication by injections; and I include even the injection of warm water, which I think can hardly ever be necessary.

If my remarks have seemed desultory, it is because I have left out a great part of what I wished to say, owing to the lateness of the hour. I have to thank the gentlemen for listening to them; for, indeed, it seemed almost a duty to express myself. My views are the result of careful thought, and I hold them with great strength of conviction. I feel that we shall soon see such unequivocally bad results from intra-uterine injection, that the profession will be forced to abandon it as a customary practice.

The Society adjourned.

STATED MEETING, JUNE 6, 1870.

DR. ELLSWORTH ELIOT in the Chair.

DR. W. B. NEFTEL read a paper upon *The Action of the Galvanic Current on the Sympathetic Nerve.* It was long and elaborate, containing much of theoretical interest and practical value; but it was so crowded with detail that an abstract would do it no justice.

DR. GRISCOM presented a resolution, which was carried, tendering the appreciation and thanks of the profession in New York, as represented by the Society, to Baron Von Diergardt, of Bonn, Germany, for his liberal donation to the German Hospital of this city.

The Society adjourned. Its next meeting will be held on the first Monday in September.

NEW YORK MEDICAL JOURNAL ASSOCIATION.

STATED REUNION, APRIL 1, 1870.

DR. ISAAC E. TAYLOR, PRESIDENT, in the Chair.

TUBERCULOSIS IN INFANCY AND CHILDHOOD.

DR. J. LEWIS SMITH read a paper on *The Causes and Anatomical Characters of Tuberculosis in Infancy and Childhood*, which we presented in the RECORD of June 15th.*

DR. JACOBI.—This is just such a paper as I expected to hear—a concise and positive review of all that has been done in the investigation of tuberculosis, giving us in condensed form nearly everything that is known upon the subject. It affords, therefore, little room for discussion; but upon a few points I may say a word. Perhaps what I have to say may be contained in those parts of the paper omitted in the reading.

We do not find tubercles except in the walls of small vessels. Only a short time ago it was the opinion that they would be found in the walls of small blood-vessels or capillaries; but lately it appears to be the prevailing view that the lymph-vessels are the only ones where tubercle may be found. Thus it may be explained that the principal constituent of new-formed tubercle is always of a lymphoid character. The description given by the Doctor coincides exactly with that of lymphoid cells.

I was struck by the remark concerning a connection between pulmonary tuberculosis and the condition of the bronchial glands. The Doctor states that, next to the lungs, the bronchial glands are oftener affected with tubercle than any other organs. I believe the relation of these glands to tuberculosis in the lungs, or rather to general tuberculosis, is more like that described in the last words of his paper—that tuberculosis in the lung is the result of absorption, not of tubercular matter but of old disintegrated matter. It is not necessary that the matter absorbed should be tubercular; if it is simply granular, any disintegrated material will be likely to bring about tuberculosis in a predisposed person. So far as inflammation

* An accident has delayed till the present number the publication of this report, which was prepared to accompany Dr. Smith's Lecture.

of the bronchial glands is concerned, we find it in almost every infant that fails of proper nutriment or assimilation. There is no infant of this description, of six or seven months, without enlargement, hyperplasia, of these glands. In rachitic cases, by the time they are ready to die, we find enlargement of the bronchial glands, which has developed the peculiar bronchial catarrh so difficult to treat.

To the compression of the pneumogastric or of the recurrent laryngeal nerve by the enlarged glands I attach less importance than does the Doctor. Were it so important, we should certainly find more nervous symptoms. Where we have to deal with a neurosis of the pneumogastric, we have an almost incessant, very characteristic, hoarse or barking cough, such as I see perhaps once in two, three, or four years; and sometimes without any complicating affection. This we should have if the bronchial glands were pressing upon the nerve.

I cannot agree that the enlargement of the mesenteric glands, so common in infants, is chiefly tuberculous. The statistics of Rilliet and Barthez are of no value here; for when they were compiled the difference was not known between tubercular and caseous degeneration. We have no right to speak of tubercular degeneration unless we find, in those portions of the glands not yet disintegrated, the lymphoid, tubercular bodies. In the mesenteric glands, for the most part, we do not find these, but simply a fatty detritus. We know that we seldom meet a case of chronic diarrhœa in infants without enlargement of the mesenteric glands. This is the result, in the first place, simply of over-nutrition of the whole region. Catarrh of the intestine means hyperæmia; and this, if not relieved, will produce chronic inflammation and resulting disintegration. Either there is enlargement of the proper glandular elements, or there is hypertrophy of the connective tissue. In the first case we soon have caseous degeneration; in the second, we have induration, shrinking, and atrophy of the glands. Imagine now that a case of the first description lasts a number of months. Degeneration takes place, caseous softening, the formation of an abscess. If the lymphatic vessels entering such glands are not stopped up, the result will be that the matter will be absorbed and spread all over the system. Why should this produce constitutional tubercle? I believe the cause is, that every foreign substance entering the blood will light up a fever. And any disintegrated material entering the system need not go far before finding its way into the veins or lymphatics. The fact that in the infant we see tuberculosis invading almost all the organs at one and the same time I think can be best explained in this manner. It is favored by the great delicacy of the walls of the minute capillary vessels, which are, if at all anything else, little more than a layer of epithelial cells.

The Doctor has stated correctly, as I believe, that tubercle is very rarely found upon the mucous membrane of the intestine. I believe that tuberculosis upon the interior of the intestine is always due to material that has been swallowed. I have lately presented to the Pathological Society a specimen of typhoid intestine, where the lesions (ulcerations) were found not only in the usual place, but quite low down in the colon. The case had lasted a very long time, and in all probability these ulcerations of the lower bowel were due to morbid material washed down there. Similarly I conceive that tuberculous ulcerations of the inner part of the intestine are due to morbific matter swallowed. The tubercles ulcerated in the lung are coughed up, but not expectorated. The matter is swallowed and poisons the intestine—not the stomach, where it has little time to rest, and where tubercle is very rare. The presence of tubercle in the larynx is probably the result of contact also.

Where we find transparent tubercle, it shows that the tubercular process is not old. The oldest tubercle in the specimen shown here to-night cannot be many days older than the transparent ones. It requires but very few days for transparent tubercle to assume the yellowish appearance, this being the result of accumulation and compression of the new-formed cells.

As to fatty degeneration of the liver, I think we see almost as much of it in infants and children as in adults. It is not necessary that there should be anything beyond faulty nutrition to produce it. Every tissue not fully formed, especially a cell-tissue, has a tendency to fatty degeneration. The liver, being pre-eminently cellular, is particularly liable to this degeneration when there is malassimilation.

Dr. J. Lewis Smith.—I have now made a large number of post-mortems of infants dying from what is called "inanition," and I believe that in most of these cases we shall find hyperplasia of the mesenteric glands—not so much of the bronchial—but as a rule shall not find caseous degeneration. When this last has occurred, we commonly find also tubercles in the lungs.

As to cerebral symptoms from the enlargement of the bronchial glands, I agree with Dr. Jacobi that it is only a small number of cases in which such symptoms arise, due to passive congestion of the brain from pressure upon the venous trunks, or to pressure upon the pneumogastric.

Dr. Jacobi.—Might I venture upon an explanation of the fact which the Doctor has just stated—that we find less caseous degeneration in the mesenteric glands than in the bronchial. Perhaps the physiological cause may be this: Every change of this kind is connected with hyperæmia. The mesenteric glands will be affected by intestinal congestion in their neighborhood; this congestion, however, spreads over a large surface, and may not be so active as in the bronchial glands. In the immediate vicinity of these latter is a fœtal organ, the thymus gland, which after birth rapidly diminishes in size; and I can imagine that its diminution may tend to cause collateral hyperæmia in its immediate vicinity, and thus produce a rapid and considerable swelling of the bronchial glands. So in children with rachitic symptoms we see bronchial degeneration at only a few months of age. I do not know that this is the true reason why the bronchial glands should exhibit such a great tendency to excessive swelling and rapid cell-degeneration, but it strikes me as possible.

The meeting adjourned.

AMERICAN OPHTHALMOLOGICAL SOCIETY.

SEVENTH ANNUAL MEETING.—FIRST DAY.

The Society met at the Masonic Hall, Newport, R. I., on Thursday, July 21, 1870. The meeting was called to order at 11 A.M., by the President, H. W. Williams, M.D., and the minutes of the last meeting were read by the Secretary, H. D. Noyes, M.D. The following-named members were present:

Dr. H. W. Williams, B. Joy Jeffries, G. Hay, Boston.
C. A. Robertson, Albany.
C. R. Agnew, C. M. Allin, Francis Delafield, H. Knapp, E. G. Loring, H. D. Noyes, D. B. St. John Roosa, New York.
John Green, St. Louis.

The President named the Committees as follows:
On Order of Business—Roosa, Jeffries, Robertson.

On New Members—Agnew, Green, Delafield, Loring. Dr. Jeffries read the report on the progress of ophthalmology. This exhaustive report received a vote of thanks from the Society.

Dr. Allin read a case of cyst of the iris, cured by operation, with a microscopical description by Dr. Althof.

Dr. Knapp made some remarks upon his case of cyst of the iris, published in the Archivs für Ophthalmologie, which he was requested to reduce to writing.

Dr. Allin read a case of double detachment of the retina, supposed to be *glioma*.

Dr. Jeffries read a report of a case of *glio-sarcoma* of the retina.

Dr. Knapp related a case of glioma of the retina.

Dr. Delafield read an exhaustive paper, illustrated by five cases, on tumors of the retina.

Dr. Allin read a paper on a case of diphtheritic conjunctivitis, in which canthoplasty was performed.

A general discussion on so-called canthoplasty, that is, elongation of the palpebral fissure, followed, in which Drs. Noyes, Agnew, Roosa, Knapp, and Allin, participated.

Dr. Noyes demonstrated an operation intended to increase the effect of the division of the orbicularis. Dr. Roosa spoke of the possible dangers of the great amount of dissection in such an operation, and advanced a case in point.

Dr. Knapp thought the name canthoplasty should not be given to the mere elongation of the fissure, which was done years ago by Graefe and others in gonorrhœal and phlyctenular conjunctivitis.

The following names were reported by the Committee on New Members, and the gentlemen were elected members of the Society:

Drs. Pooley, Eno, and Aub, New York; Drs. Norris and Thompson, of Philadelphia; Dr. Willard, of Boston; Dr. Miller, of Providence. Drs. Norris, Pooley, Thompson, and Miller, took their seats as members.

The following named gentlemen were present by invitation:—Dr. Green, Boston; Dr. G. A. Peters, Dr. T. F. Cock, and Dr. Hodge, New York.

Adjourned till 7½ P. M.

Evening Session.

The Society met at 8 P.M.

The name of Dr. S. L. Jones, of Chicago, was reported by the Committee, and Dr. Jones was elected a member, and took his seat with the Society:

Dr. Allin made some remarks for Dr. Althof on the treatment of asthenopia, causing phlyctenular conjunctivitis by prismatic glasses.

Dr. Roosa read a case of conjunctivitis and keratitis, having some peculiarities.

Dr. Noyes read a case of foreign body in the vitreous, illustrated by a drawing by Dr. Eno. The exact position of the body in the vitreous was primarily diagnosticated by Dr. Noyes.

Dr. Pooley read a case of foreign body in the eye, the position of which was diagnosticated by the interruption in the field of vision, as first done by R. Berlin.

Dr. John Green read a paper on the Treatment of Strabismus Convergens through the accommodation.

Dr. Agnew read a report and exhibited photographs of a case of advancement of the internal rectus, to relieve a deformity caused by an ancient operation for convergent squint.

Dr. Loring demonstrated, by means of a glass-tube filled with fluid, placed in front of a reflecting surface, and also in front of a plane mirror, that Jaeger's explanation of the double contour seen in the retinal arteries was incorrect; and that it was really due to the reflection from the tissue behind the artery, the light passing through the anterior and posterior walls of the vessels.

This beautiful experiment was considered conclusive, and after some discussion by Drs. Knapp and Loring, it was understood that the *refraction* which the light underwent in the blood column, as well as reflection, which caused the phenomenon.

Dr. Jeffries read three cases of herpes zoster ophthalmicus.

Adjourned.

SECOND DAY.

The Society met, and was called to order at 10 A.M.

Dr. Jeffries reported thirteen cases of Passavant's operation for the removal of posterior synechiæ, illustrated by figures.

Dr. Thompson read a paper on an additional test for the degree of ametropia. This test consists essentially in placing before the eye a perforated screen, and regarding a light point, say 20 feet distant; when in hypermetropia or myopia two points of light are seen, while in emmetropia but one is seen. It is Scheiner's test for the accommodation adapted to the present knowledge of errors of refraction. Dr. Knapp thought the test insufficient, because the accommodation could not be relaxed in any test, and because Lesting's diagrammatic eye was used, while in point of fact each individual eye differed in the optical axis. Dr. Thompson's practical demonstrations of his method were, however, very satisfactory.

Dr. Knapp exhibited ophthalmoscopic drawings of cases of retinitis pigmentosa, morbus Brightii, and choroidal perivasculitis.

Dr. Hay exhibited an apparatus to illustrate the apparent form of the inverted image in astigmatism.

Dr. Knapp made some remarks on neuro-retinitis in cases where the vision was I. Dr. Loring related a case, and some discussion ensued as to the cause and seat of lesion.

Dr. Agnew reported a case of blepharoplasty, where a series of operations was done to relieve a coloboma of the lower lid.

Dr. Noyes related the history and exhibited photographs of a case of ectropion from exophthalmia, in which he enucleated the eye, and closed the palpebral fissure to relieve a very distressing deformity.

Dr. Agnew read a paper by Dr. J. S. Prout, On the use of Quinine upon the Conjunctiva.

A paper by Dr. Robertson was read, by title, "On some Peculiar Reflex Symptoms in a Case of Traumatic Lesion of the Eye."

Dr. Knapp then gave some practical points in the performance of the peripheric linear operation for cataract, and started a discussion on the shape of incision, laceration of the capsule, the bandage, which was participated in by Drs. Agnew, Noyes, and Jeffries.

The Society resolved to meet at Newport, R. I., on Thursday, July 22, 1870, at 9 A.M.

The following officers were re-elected.

President—H. W. Williams.
Vice-President—C. R. Agnew.
Recording Secretary—H. D. Noyes.
Corresponding Secretary—H. Althof.
Committee on Progress of Ophthalmology—B. Joy Jeffries.
Publication Committee—E. G. Loring, Jr., D. B. St. J. Roosa.

The Society then adjourned.

AMERICAN OTOLOGICAL SOCIETY.

THIRD ANNUAL MEETING.

The Society met at the Ocean House, Newport, R.I., on Wednesday, July 20th, at 10½ A.M. The Society was called to order by the President, Dr. H. D. Noyes, of N. Y. In the absence of the Secretary, Dr. Rider, Dr. R. F. Weir, of N. Y., was elected Secretary *pro tem.* The following members were present:—

Dr. J. Orne Green, Dr. C. J. Blake, Dr. W. W. Moreland, Boston.

Dr. C. R. Agnew, Dr. H. D. Noyes, Dr. H. Knapp, Dr. D. B. St. John Roosa, Dr. R. F. Weir, New York.

Dr. C. E. Robertson, Albany.

Dr. John Green, St. Louis.

The minutes of the last meeting were read and approved.

The President appointed Drs. Agnew, Roosa, and Green (Boston), an Executive Committee, to nominate officers, committees, and arrange an order of business.

The Committee reported the following named as Committee on Nomination of New Members:—Drs. Noyes, Green, Blake, Weir, Roosa.

The committee reported the names of the following gentlemen, who were elected members of the Society:—

Dr. T. R. Pooley, Dr. C. I. Pardee, Dr. J. H. Hinton, New York.

Dr. H. N. Spencer, St. Louis.

Dr. H. Pinkney, Dr. A. Buck, New York.

The report of the Treasurer was read and referred to an Auditing Committee, Dr. Blake.

The report on the Progress of Otology was read by Dr. J. Orne Green. A vote of thanks was given Dr. Green for his exhaustive report.

Dr. Moreland, of Boston, read a paper on Occlusion of Meatus Externus by Cutaneous Layer.

Dr. R. F. Weir read a case of hair ingrowing upon the membrana tympani.

Dr. C. A. Robertson gave the history, and exhibited a case, of anal polypus with facial paralysis.

Serious hemorrhage had occurred on attempts to remove the growth.

He asked the views of the Society as to the proper procedure. Dr. Roosa advised the use of an anæsthetic, and the thorough removal of the growth, plugging the meatus in case of hemorrhage.

Dr. Agnew suggested that a microscopic examination be made, and then the removal attempted.

Dr. Knapp thought well of galvanic caustic for the removal of large polypi.

Dr. Roosa read a paper on the Mastoid Process in inflammations of the middle ear. The paper contained cases and a historical account of the operation of perforation of the process.

Dr. Agnew related a case of trephining the mastoid process.

The subject of these papers was discussed by Drs. Knapp, Orne Green, and Weir.

Dr. H. D. Noyes read a case of the use of the bougie in the Eustachian tube, and Politzer's eyelet in the membrana tympani.

Dr. Weir, in the discussion that followed, exhibited some bougies, and discussed his method of using the instrument.

On motion Dr. Weir was requested to put his remarks in writing, and submit them to the Publishing Committee.

Drs. Orne Green, Agnew, Knapp, and Blake discussed Dr. Noyes' paper.

Dr. J. Orne Green read a case of Epithelioma of the Auricle.

Drs. G. A. Peters and F. Delafield, of New York; Norris and Thompson, of Philadelphia, were present by invitation.

Adjourned at 2½ till 7 P. M.

EVENING SESSION.

The Society met at 7½ P. M. The Committee on New Members reported the name of Dr. Arthur Mathewson, who was elected a member of the Society.

Dr. T. F. Cock, of New York, was present by invitation.

Dr. Moreland read a paper on Foreign Bodies in the External Auditory Canal. Remarks were made by Dr. Roosa, Noyes, and others.

Dr. A. H. Buck read a paper on Angioma of the Tympanum, illustrated by a microscopic specimen and drawings.

Dr. John Green reported a case of Aspergillus.

Dr. Noyes made some remarks on the catheterization of the Eustachian tube through the opposite nostril, and exhibited some instruments with a double curve, which he had devised to facilitate this manœuvre.

Dr. Noyes also exhibited a binocular ophthalmoscope adapted for the examination of the membrana tympani.

Dr. Weir read the full report of a case already quoted in Roosa's translation of Tröltsch on the Ear, of ununited fracture of the handle of the malleus.

Dr. Roosa read two cases of hemiplegia occurring in coincidence with aural disease.

Dr. Knapp reported a case of congenital closure of the meatus.

Dr. J. Orne Green read a case of epithelicma of auricle.

A paper on the use of steam in sclerosis of the middle ear was read for Dr. Pardee, the author.

Dr. John Green read a paper detailing some experiments which he had made in a submarine chamber.

All these papers were referred to the Publishing Committee. On recommendation of the Executive Committee, the following-named officers were elected for the ensuing year: President, H. D. Noyes, M.D.; Vice-President, E. L. Holmes, M.D.; Secretary, J. Orne Green, M.D.

Committee on Progress of Otology: A. H. Buck.

Publication Committee: C. E. Hackley, M.D., R. F. Weir, M.D.

The Society then adjourned, subject to the call of the Secretary; it being understood that it be one day prior to the prospective meeting of the American Ophthalmological Society.

Gastro-Elytrotomy First Proposed.—Prof. T. Gaillard Thomas, M.D. (*Am. Jour. of Obstetrics*), recently read a paper before the Yonkers Medical Association on "Gastro-Elytrotomy," and remarked as follows: To avoid section of the peritonæum and uterus (Cæsarean section), in 1820 Ritgen of Germany proposed an operation which he styled gastro-elytrotomy. So far as his researches have enabled him to discover, this operation has attracted the attention of but four obstetricians: Jörg in 1806, Ritgen in 1820, Physick in 1822, and A. Baudelocque in 1823.

The Admixture of Sexes in Medical Classes, Hospitals, and Dissecting-Rooms.—Two of the most distinguished Professors of the University of Edinburgh—Professors Christison and Laycock—object to the admixture of the sexes in the study of medicine in medical institutions. The University has voted "No" to the proposition of mixing the sexes in medical teaching.

Correspondence.

THE HYPODERMIC USE OF QUININE.

To the Editor of the Medical Record.

Sir—In your journal of June 1st, 1870, p. 167, you publish an abstract of the history of a case, from the *New Orleans Journal of Medicine*, by Dr. E. P. Sale, of "Death from Tetanus produced by the Administration of Quinine Hypodermically." You were also pleased, in your recent notice of my paper on the uses and abuses of quinia and its salts, published in the Transactions of the American Medical Association for 1869, to call the attention of the profession to the fact that I therein class the hypodermic use of quinine among the abuses of the drug, and you did so with your approbation.

These circumstances, and more especially this late history of a fatal result from the hypodermic use of the medicine, have appeared to me sufficient reason for an effort to give what I do say in that paper, on this abuse of quinine, a more general circulation among the profession; and to that end I have made the following abstract of the substance, and much of the letter, of the portion of said paper which treats of the subcutaneous use of quinia and its salts, and send it to you with the hope that the Record may carry it where it will be the means of saving human life, and of preventing a vast amount of unnecessary suffering. In that paper, at p. 227 of the Transactions for 1869, I say: "The introduction of the substance into the areolar tissue of various parts of the body, or into the veins, I regard as the greatest abuse of all the abuses of administration of quinine. This is an innovation of therapeutics of modern origin. It followed very slowly upon this manner of using the neutral salts of morphia and other similar substances, and has been very cautiously adopted by the profession."

The reasons for this caution are obvious, and are alluded to by all the advocates of this manner of administering quinine, viz., its insolubility except in decidedly acid fluids; nor have I yet seen any satisfactory argument or published experience which, in my judgment, outweighs the objection this fact affords to the subcutaneous employment of quinine.

The objections to this method of introducing the salts of quinia into the system may be arranged in the following order: First, it is a painful operation, both as to the introduction of the instrument, as well as following the permeation of the tissues by the fluid injected. So considerable is this latter pain, that morphine has been suggested and employed in combination with the quinine to prevent or alleviate it; and Dr. Bartholow, one of the advocates of this method of medication with quinine, suggests the local anæsthetic use of ether spray to prevent the pain attending the puncturing of the skin with the injecting needle. (Transactions of the Connecticut Medical Society for 1868, p. 1.5.)

Second, the operation is followed by inflammation in the part permeated by the fluid, an inflammation which creates more or less irritative fever, and not unfrequently results in suppuration at the locality; or, as we now see, may induce fatal tetanic disease.

Third, the possible danger of injecting a vein with not alone an acid fluid, but with bubbles of air.

Fourth, it is rarely, if indeed it is ever, a necessary or even expedient operation.

It is claimed by some that the acid added to effect the solution is rather a source of safety than of danger, the real danger arising from the presence of undissolved particles of the salt, or of dust or other extraneous matter that may by accident be found in the solution. Others, however, recognizing the liability of the most carefully prepared acid solutions to excite troublesome inflammatory action in the part, have proposed the etherial solution of quinia for this purpose as one less likely to produce accidents.

One grain to six minims of ether is recommended as a solution of proper concentration. (Bartholow, op. cit., pp. 105, 106.)

If we are allowed to judge of the merits of this proposal by the light of the experience of Dr. Sale, we cannot but regard it as even more dangerous than the use of the acid solution; for he adds to his report of the case of fatal tetanus caused by the subcutaneous use of an etherial solution of six grains the remark that "this is the fourth case out of ten in which he has had cause to regret resorting to this method of medication, on account of the violent inflammation which has been the consequence."

The literature upon this whole subject, therefore, goes to show that, under the most favorable circumstances, and by means of careful filtration, and in very small quantities, the subcutaneous use of quinine is attended with much danger, either in acid or etherial solution; and if, by a very possible accident, the etherial solution should reach the cavity of a vein, I should be prepared to hear that its conversion into vapor by the warmth of the blood had caused sudden fatal results.

How dangerous, then, must it be as a system of medication for camp and field hospitals! But that the readers of the Record may form their own conclusions, I add the following abstracts. The results of the experiments of the Committee of the Medical and Chirurgical Society are most instructive in this connection. They "found that neutral solutions as a rule were tolerated, but that very acid and very alkaline solutions were apt to cause irritation." They also "found that a drug injected subcutaneously was far less rapidly absorbed and less intense in its effects than when introduced into a vein." (Medico-Chirurgical Transactions, vol. xxxii., p. 561, 1867.) As an index of the degree of irritation produced by the injection of a solution of quinine into the subcutaneous areolar tissue, I regard the following statement of the committee as important. They found that "when the drug was injected into the cellular tissue, considerable elevation of the temperature was observed, this symptom being slight or inappreciable when the drug was taken in the same quantity by the mouth or by the rectum." Yet, in the face of these facts, a prominent advocate for this use of the medicine states that "it is a remarkable fact that the cure of malarious disease by the subcutaneous injection may be accomplished without any disturbance of the vascular system, without any alteration of the normal thermal line, and without any disorder of the cerebral functions." (Bartholow, op. cit., p. 105.) These and many similar ones which the literature of this subject furnishes, are most seductive and dangerous declarations, as no doubt Dr. Sale and many other misguided physicians are now able to attest.

While the Medical and Chirurgical Committee conclude that this manner of using various soluble substances is often advantageous, as securing greater intensity and rapidity of action, and include quinine among them, they add that "some caution is requisite in giving large doses of this drug, as irritation may arise from its presence under the skin. And further, "that, as a general rule, only clear neutral solutions of drugs should be injected; for such solutions rarely produce local irritation;" and they finally conclude that

"this plan of medication is most likely to be adopted where very rapid and decided effects are required from drugs which are operative in small doses." (Op. cit., p. 589.) During the discussion which followed the presentation of this report of the committee, Mr. Moore, who is quoted by some of the advocates of this method of using quinine as authority, remarked that large doses of the medicine introduced in this manner "always gave rise to suppuration; that even fifteen minims, in one case, produced this, and that five or six minims was the best quantity." These statements I regard as explanatory of the meaning of the terms *large* and *small* doses, as used by the committee, that they do not mean therapeutical, but simply physical quantity.

It would seem, however, that the physicians of the New York Hospital have had better results than Mr. Moore. According to their report, they are in the practice of giving thirty-five to seventy minim injections of quinine, with comparatively rare occurrence of suppuration at the point of introduction, notwithstanding their usual dose thus given contains more than one-fifth of a minim of strong sulphuric acid, and is consequently in a strongly acid solution. They had, however, been obliged to treat six abscesses, at the date of the report, resulting from the local inflammation produced by the injection, and they remark that when this kind of trouble was about to ensue, the *swelling normally consequent upon the injection* increased after the second day, and redness, together with beating pain, was noted. And besides these abscesses, they, with all the nice care to filter and prepare the solution, not unfrequently met with what they term phlegmonoid swelling at the seat of the injection.

Among the French physicians, the most recent contributor to this subject is Jules Arnould, who, after relating an extensive experience of a successful character in Algeria, remarks that the disadvantage of this method is the action of the substance upon the subcutaneous cellular tissue. He thinks, however, that a very careful preparation of the solution might reduce this liability to disagreeable effect to an insignificant minimum. Arnould's prescription was quinine in twelve parts of water, and the addition of a *few drops* of sulphuric acid, a totally indefinite quantity, but no doubt resulting in the production of a decidedly acid solution, though he remarks that the nearer neutral it is the less danger there is from its use. While he thinks that it will require only about two-thirds as much to produce the same effect as when given by the mouth, he does not think that this use of it should supersede its administration by the mouth, wherever it can be done without inconvenience to the patient. Though Dr. Bartholow has been so unfortunate as to produce large abscesses by this subcutaneous injection of quinine solutions, he, by dint of the most exact and delicate care in the preparation, as well as in all the steps of the administration of the solution, thinks he has attained such results as to justify him in accepting and recommending it as an established practice. Dr. Sale's experience demonstrates how much practical reliance can be placed upon such conclusions and recommendations. With all this evidence of the danger attending the subcutaneous use of quinine before us, we must have very weighty counterbalancing advantages to justify its continuance, or there must be the excuse of some insuperable difficulty in the way of its administration by the mouth or by the rectum.

The advantages claimed are, promptness of action, and greater efficiency, and more permanent effect.

With regard to the first claim I would say that, while the evidence decidedly sustains it, as respects the administration of the drug by the stomach, it fails to sustain it practically as respects the rectum, so that this alleged advantage of the promptness of the action of quinine, used hypodermically, will rarely if ever hold good as respects its use in perfect solution by the rectum. The Medical and Chirurgical Committee found that absorption of quinine from the subcutaneous areolar tissue, as well as from other parts, was liable to great variations as to rapidity. In one experiment 3 grains were absorbed from the areolar tissue in 35 minutes; in another 3 grains were absorbed in 4 minutes; in another 5 grains were taken up in 8 minutes. At the same time it was found that in one experiment 3 grains were absorbed from the rectum in 35 minutes, the precise time occupied by the areolar tissue. In another it took 45 minutes, and in a third experiment 5 grains were absorbed in 10 minutes. Upon these results the Committee issue the following, to me, unaccountable conclusions, viz.: "Not only, then, is rapidity of action and completeness of result advantages belonging to this method of exhibiting quinine, but also economy of material—a considerable recommendation to medical men on foreign stations, and to travellers in countries where intermittents prevail and the remedy is scarce."

I submit that they have furnished scarcely sufficient data to warrant so positive and forcible a deduction.

As to its efficiency and economy there are very diverse opinions. Arnould thinks that about two-thirds the amount of the medicine is required, when administered in this way, that is needed by the mouth—an opinion concurred in by Dr. Bartholow. Mr. Moore, in his early reports on the subject, thought five-sixths might be saved in this method of administration.

The New York Hospital physicians, however, found that, in the class of cases which came under their charge, this estimated economy "was far too high." "Four grains of the medicine," they say, "were needed to break an attack of tertian fever, and that fully eight were required for a quotidian." This, however, does not comprise all the medicine used in the treatment of the cases, as is clearly shown by the history of three cases which immediately follows. The first case, for example, consumed 16 grains; the second, 44 grains; and the third, 42 grains. The reporter adds the statement that the management of these three cases gives a correct idea of the general management of the "common intermittent" at that hospital by the subcutaneous treatment. This makes an average of about 35 grains used in the treatment of "common intermittents;" from three to four times the amount stated as sufficient by Dr. Bartholow. (Op. cit.)

If we now turn to this same reporter's statement of the old treatment at the New York Hospital, we find that for simple tertian intermittents, if kept under treatment a week, they consumed 56 grains, against 44 grains by the new method. Taking this as a statement of absolutely necessary amounts of quinine for the treatment of intermittent fever, when used by the mouth, it appears to me a very trifling economy, to be placed against the great and manifest objections and dangers of the subcutaneous method. But in the treatment of the common intermittents by the old style, at this hospital, an entirely unnecessary amount of quinine was employed.

Thirty grains is a full quantity for the treatment of a common tertian or quotidian intermittent; indeed it may generally be arrested with fifteen or twenty. I have arrested thousands of cases of quotidian intermittents with ten or fifteen grains of the sulphate of quinine.

Four grains, the same as employed by the New York Hospital physicians subcutaneously, was a very common dose, and a successful one in my tropical practice, as an antiperiodic, given by the mouth, and I am convinced that if that amount were given by the rectum, in perfect solution, it would be as effective as under the skin.

Stillé credits Trousseau with the statement that the dose of quinine in solution by the rectum is rather smaller than by the mouth. He also quotes Kuhn as authority for the statement that the dose of quinine by the rectum, if much diluted, is about half that required by the stomach.

The Medical and Chirurgical Committee found that the difference between the effect of quinine given by the mouth and by the subcutaneous areolar tissue is "more marked than between the rectum and areolar tissue." (Op. cit., p. 574.) On the other hand, Dr. Bartholow says, "We have ascertained that four times the quantity is required by the rectum that is necessary by the stomach, to produce a given effect." (Op. cit.) He is, however, in conflict with the most competent authority, and with my own positive knowledge, in this matter, a fact which would be difficult to explain but for his remark that by "suppository, or by clyster," he has found the rectum the best channel through which to introduce quinine in certain cases. (Op. cit., p. 121.) It would appear that he has ignored the fact that the *rectum is not a digestive organ;* and that, consequently, substances introduced into it, requiring digestion and solution, are more or less slowly and partially appropriated. To this class of substances belong quinine suppositories and quinine clysters, made with either pure water or some emulsive fluid. Had he, on the contrary, introduced the quinine in solution with water, he would have found that the rectum, as an absorbing organ, has hardly an equal in the body, and that his results would have agreed with those of other experimenters. My own oft-repeated observations upon the action of quinine, when given by the mouth and by the rectum, have convinced me that the dose for any purpose, if in solution, is never more, and as a rule very decidedly less, by the rectum than by the mouth.

Now, as we have already seen that the rapidity of the action of the drug, when administered in this manner, is practically about the same as when introduced into the areolar tissue, it becomes obvious that, so far as any practical result goes, the claims of promptness of action and economy of material for the subcutaneous use of quinine, as compared with its use in solution by the rectum, must be abandoned as not at all sufficient to justify the danger attending this method of administration.

As to the claimed permanency of the action of quinine introduced into the areolar tissue, I cannot but suspect that there has been some error in the observations which led to such a conclusion. The very fact that the medicine is promptly absorbed, leads me to infer that it is equally promptly eliminated, and consequently that its effect must be less permanent. I therefore see no physiological reason for the statement that quinine exercises a more permanent effect when introduced under the skin than when taken in any other way. The evidence that quinine introduced into the areolar tissue exercises a more permanent effect than when taken by other channels, is, so far as I have seen, furnished by the pulse and temperature of the body, signs which are fairly accounted for by the irritative fever produced by the local irritation of the injection.

Individually, I have fortunately no experience with the subcutaneous or intravenous use of quinine. Ever since I have thought of it at all, I have regarded it as a dangerous and unnecessary method of using the medicine; and the occasions in which the sulphate in pill, or other form, is objectionable by the mouth, and impracticable in solution by the rectum, I have never yet met with, and I presume will be very rarely seen. In all cases where a prompt action of the medicine is desired, as well as in cases where objections to its administration by the mouth exist, or in cases where economy of the drug is important, it should be given by the rectum in perfect solution, of a strength of not greater than ten grains to the ounce of water. The rectum tolerates such a solution with little or no inconvenience, and absorbs it very rapidly; and so long as this is the case, I insist, and I am sustained by the accumulating recorded experience upon the subject, that the use of the areolar tissue, or a vein, for the introduction of quinine into the system, is not only an unnecessary but a dangerous abuse of administration.

Respectfully yours,

STEPHEN ROGERS.

249 WEST 42D STREET, June 13, 1870.

Medical Items and News.

BOSTON MEDICAL AND SURGICAL JOURNAL.—The editorial management of this journal has passed into the hands of Dr. Francis H. Brown. Dr. Luther Parks having retired.

RECORD OF MORTALITY IN BERLIN.—In the months of January and February, 1870, there were 2,963 male births, and 2,807 female births: total 5,770, of which 500 boys and 446 girls were illegitimate. Fifty-one times there were twins and twice triplets.

One thousand and seven couple were married. Deaths 3,755—1,967 males, and 1,788 females. Under one year, 1,331; above 15 years, 1,689.

DEATH OF A NOTED ENGLISH SURGEON.—Mr. Nunnely, of Leeds, the accomplished surgeon and medical jurist, died on the 1st of June, aged 62.

DEATHS FROM CONSUMPTION IN THE UNITED STATES.—The average number of deaths from consumption, according to the census of 1860, was one in 1,447, while in the State of Florida it was one in 254. The most favorable time for phthisical and nervous patients to reside in Florida is from early in November to the first of May. The mean temperature during 20 years at St. Augustine, ranged from 57.03° in January to 80. 90° in July.

MANGANESE IN BLOOD AND MILK.—Professor Polucci, of Italy, has discovered the constant presence of manganese in the human blood. Manganese was also found in 34 analyses of milk, 23 of which were human, 4 from the cow, and 4 from the goat.

A NEW HOSPITAL IN LIVERPOOL, ENGLAND.—On the afternoon of June 7th, Lord Derby laid the cornerstone of the new Stanley Hospital, Liverpool.

A NOVEL USE FOR CROTON WATER.—Prof. Chandler, chemist to the New York Board of Health, in his interesting report on the milk supply of New York, estimates that for every three quarts of milk there is added one quart of water, and, as the annual consumption of milk in New York city and vicinity is 120,000,000 quarts, 40,000,000 quarts of water are used to dilute it, which, at ten cents per quart, cost the citizens $4,000,000 per annum, or about $12,000 per diem.

THE GLYCEROLE OF IODINE.—This preparation, recommended for loss of voice, is composed of a solution of 16 grains of iodine in one ounce of inodorous glycerine.

Original Lectures.

LECTURES
ON
THE PALSIES
AND
KINDRED DISORDERS OF THE NERVOUS SYSTEM.

By MEREDITH CLYMER, M.D.

Lecture V.

PROGRESSIVE CEREBRO-SPINAL SCLEROSIC PALSY.

Definition — When and by whom made a distinct pathological species — Clinical History — Varieties of; cerebral form; spinal form; sometimes associated with locomotor ataxy — Duration — Prognosis — Patho-Anatomy — Histological Changes — Differential Diagnosis; from shaking palsy; from the paraplegias; from locomotor ataxy — Treatment. (*With six Engravings.*)

In this lecture I shall ask your attention to a disease of the cranio-spinal system of high interest, and which is attracting much notice. When on the subject of shaking palsy I spoke of it, and told you that until quite lately it had always been confounded with that affection, but really they were clinically and pathologically unlike. The French writers have named it, after its univocal lesion, *disseminated sclerosis of the brain and spinal cord;* I propose to call it *progressive cerebro-spinal sclerosic palsy.* It may be described in brief as:

A chronic disease of the brain and spinal cord, at times of abrupt onset, but commonly of slow approach; sometimes preceded by dizziness, headache, and apoplectiform symptoms, but more often beginning with weakness in one or both legs, which extends to the arms, and passes after a while into complete paralysis, and may affect the muscles of the neck, lips, pharynx, and tongue; no constant derangement of the various forms of cutaneous sensibility; attended with tremor in the disordered muscles, happening only when any voluntary movement is made or attempted, and ceasing whilst the muscles are at rest; often nystagmus; later on cramps, spasms, and permanent contractions of the palsied limbs; of probable diathetic origin; progressive in its course; of fatal ending; the anatomical characters being patches or corns of sclerosis irregularly scattered in the white substance of the brain, and in the anterior and lateral columns of the spinal cord.*

Two cases of this disease were described by Cruveilhier, more than thirty years ago, in his *Atlas d'Anatomie Pathologique*, and its morbid anatomy accurately delineated. Since then occasional cases have been reported by German writers. But its nature was ill-understood, its history was obscure, and the main points of practical significance escaped recognition until it was made the subject of special study by Drs. Vulpian and Charcot, particularly the latter. The eminent physician of la Salpêtrière distinguished it from the other forms of palsy with which it had apparent kinship, linked the lesion with a definite group of symptoms, and established its clinical and pathological autonomy.

* The term *apoplectiform* is here used in contradistinction to that of *apoplexy*. In which the symptoms are the result of cerebral hemorrhage or softening. In apoplectiform attacks there remain no evidences of material lesion; they occur in many brain disorders, and not unfrequently in hemiplegia; and yet after death no fresh effusion of blood can be found. In the present state of our knowledge it would seem that the only diagnostic mark between these attacks and those of true apoplexy is thermic; in the first the body-heat is generally increased, and never falls below the natural standard; whilst in the latter there is always at the beginning a lessened temperature.

Seizure may be sudden, the patient becoming instantly paraplegic, or vertiginous and hemiplegic. Again, considerable loss of power in the lower extremities during convalescence from an attack of typhoid fever or cholera may happen, which persists and increases, and proves to be the starting-point of the disease. But in a large majority of cases the invasion is gradual, muscular failing being foretokened by signs of nervous irritation, as numbness, tinglings, coldness, heaviness, and a sense of fatigue after slight exertion, in the legs. There may be some stiffness in the joints, making the movements awkward and constrained. When the brain is early implicated there are, foregoing or following the motorial troubles, spells of headache and dizziness, with faulty speech, and weak sight, and sometimes diplopy. But the lessening of motor power, either in one or both legs, is the fundamental initial symptom. This paresis may be regularly progressive from the beginning, or it may for a while remain stationary, and be so slight as to be only annoying after physical or mental exertion; or, and still more rarely, it may temporarily abate. Generally, however, in a little time the gait becomes uncertain, there is a tendency to trip, particularly in meeting with any unevenness of surface. The course of the paresis should be noted; if at the outset one leg only is affected, say the left, after a while the right will begin to fail; then probably the left arm, and afterwards the right. Sooner or later it deepens into complete palsy, the unfortunate patient becoming first paraplegic and afterwards losing all power in his upper extremities, the paralysis becoming generalized by following the same line as the paresis.

Now, sometimes coincident with the paresis, but more frequently later on, comes another symptom; a fundamental one, and one indeed by which the diagnosis is established; I mean tremor. Before this phenomenon is actual some unsteadiness in co-ordinated muscular acts may be observed. Its appearance, though inevitable, is uncertain and very variable, and often difficult to fix, because at first it may be so slight and occasional as to be hardly noteworthy. It may occur three months after the onset, or not for ten or fifteen months, and there are some reported cases where the paraplegia preceded it several years. In such the patient is already bedridden when it appears, and unless it is sought for and provoked it is pretty sure to be overlooked, and for this reason, that it *only happens when there is a volitional muscular act; it is always absent when the muscles are in a state of rest.* This is its diacritic feature, and it is a clinical fact of the utmost significance for us. It gives the disease its special physiognomy, like the characteristic gait of locomotor ataxy. As a rule, the order of the tremor is the same as that of the paresis. The kind or type is a series of rhythmical twitchings (secousses) or short snatches, which at first are mild, and do not hinder the common functions of the limb, but only qualify their mechanism. In raising a glass of water to the mouth, the gesture is not continuous and co-ordinate, but jerking and ill-regulated; the control of the will over the muscular effort is manifestly faulty; the hand is carried in various ways before the object is accomplished; or, from the violence and persistence of the jactitations, the act may fail altogether. The limb-tremors are usually in the direction of extension and flexion, sometimes in that of ab- and ad-duction, and occasionally in that of rotation. The head nods, rolls, or partially rotates; and the motion of the jaws is lateral.

About this time other symptoms are noticeable; the eyeballs begin to rock. The nystagmus is always

binocular; I know of but one exception. It usually occurs only on using the eye in trying to fix an object. When the tongue is protruded it is tremulous; speech is drawling, measured, and sometimes slightly thick, each syllable is pro-noun-ced sep-a-rate-ly, scanned, so to speak. Pain-spells in different parts of the body, as the limbs, trunk, and face, may be felt, the sight-troubles worsen, and the ophthalmoscope shows atrophy of the discs. So long as the patient remains sitting or lying, or in other words is perfectly quiet, there is nothing peculiar in the appearance; but the moment he is spoken to, or he tries to execute a given movement, the trembling begins. In a type-case you will see the head, arms, hands, legs, and muscles of the trunk all set violently a shaking in a moment. An attempt to drink will make the head tremble, or even raising it from the pillow. In the erect position a series of oscillations take place, the equilibrium being maintained with difficulty, and the body swaying in all directions.

Cutaneous sensibility, as respects touch, pain, temperature, tickling, in many, perhaps in most, cases remains undisturbed throughout; but this depends, of course, upon the district of the cord that may be damaged. In some cases darting pains in the limbs are felt; and a sensation of constriction about the waist—a stock symptom of the defunct classical chronic myelitis—is not uncommon. The body heat is natural, except there be intercurrent disorders; the pulse is often quickened, as in posterior sclerosis of the cord (locomotor ataxy).

At a latish stage of the disease, and not before paralysis is fully established, new phenomena in the muscular series occur; one or both lower limbs become suddenly rigid, resisting any effort to move them. These cramps are often attended with great pain, and when they have passed there is a feeling of fatigue in the limb. Temporary and recurring, they may last from a few minutes to several days, and in time are replaced by permanent contraction of the extremities, particularly the inferior. This follows strictly in its development the line of attack of the palsy, striking first the legs, then the arms, and sometimes the muscles of the trunk and jaw. Besides these, muscular spasm-spells may happen—the spinal epilepsy of Brown-Séquard—in which the legs are jerked about as if excited by a series of electric shocks. When of less degree they are like the muscular startings after the use of strychnia. If they occur before motility is quite abolished, they may alternate with the cramps. In some patients reflex movements may for a long time be provoked by pinching the skin of the legs or tickling the soles of the feet, whilst in others these excitations are without result.

The course of this disease is in a majority of cases regularly progressive. Muscular enfeeblement, as we have seen, slowly but surely increases, until there is more or less complete motor incapacity. Tremor, at the outset slight, partial, and occasional, is started by the least voluntary movement, and becomes violent and generalized. Convulsive agitations, spells of rigidity, and permanent contraction of the disabled limbs follow. The patient is condemned to his bed, lying all in a heap, an inert, helpless mass, with the legs forcibly flexed on the thighs, the thighs on the pelvis, and the heels drawn close up under the buttocks. Finally, the general health fails, nutrition becomes defective, and there is rapid emaciation. The muscles of the mouth and pharynx are paralyzed, and the mastication and deglutition of solids, and even the swallowing of liquids, are difficult or impossible. The saliva accumulates in the mouth, or dribbles out of the corners. Sloughs form on the parts of the body exposed to pressure, and may give rise to ascending secondary spinal meningitis, which proves fatal; or the patient dies from exhaustion; or, what is very common, death happens from some intercurrent disease of the lungs, or from erysipelas, or apoplexy. There are a few exceptions, however, in which the course of the disease was not regularly onward. There were remissions and pauses, and both the tremor and palsy greatly lessened, or for a time totally disappeared. But its progress is usually such as I have just described it.

I have endeavored to give a picture of this species of palsy in its type-form; but depending as it does on certain tissue-changes of invariable histological constitution—a special lesion of the nervous centres—the functional expressions of the morbid condition are determined by its exclusive or predominant possession of one or more districts of the cerebro-spinal axis. Hence there may be modifications of symptoms according to territorial distribution, and the occurrence of *varieties*. A cerebral form has been admitted, but it is supported, so far as I know, by a single observation, that of Valentiner and Frerichs, and is so doubtful from the unsatisfactory examination of the cord, that it ought to be rejected. It is possible that sclerous patches might be limited to certain parts of the brain without occurring in the spinal cord, but I have not been able to find any authenticated case. Not so, however, with the cord; many cases are recorded in which the morbid process did not extend beyond the cord; in this country we have the well-known case of the late Dr. Pennock, my predecessor in the Philadelphia Hospital. In such the cerebral phenomena are absent. Multiple sclerosis may involve not only the anterior and anterolateral columns, but also the posterior columns, and in that case the phenomena of locomotor ataxy—the lightning pains and motorial incoördination—are added to those proper to the spinal or cerebro-spinal form of progressive sclerosic palsy.

The average *duration* of progressive cerebro-spinal sclerosic palsy may be stated at from eight to ten years. In 17 fatal cases, it lasted 2 years in 2, 5 to 10 in 9, 13 in 2, 17 in 1, 21 in 1, and 24 in 1. The ages of death in these cases were: from 25 to 30, 2; from 30 to 35, 2; from 30 to 40, 4; from 41 to 45, 2; from 46 to 50, 2; from 51 to 55, 1.

No instance of recovery has yet been reported; and in the *prognosis* the possibility of pauses in its course, already mentioned, should be borne in mind. It is well to remember, too, that they are but temporary, in order that delusive hopes may not be excited. We have the same thing in posterior sclerosis (locomotor ataxy); but in neither case is there any reason to believe that there is any improvement in the tissue-changes. Damaged nervous tissue not unfrequently resumes capriciously and inexplicably its work for a while. Charcot and Joffroy mention instances of apparent recovery from complete paraplegia in Pott's disease, yet on the patient's dying from some other disorder, they found the well-known lesions from compression of the cord.

This affection is essentially one of adult life. In 18 cases, 14 were between 26 and 36 years at the time of invasion. With regard to the influence of sex, we have no certain information. So far this form of palsy has been chiefly studied at the Salpêtrière Hospital, to which females are alone admitted. We need more data to decide this point. It has, as I have said, followed acute diseases, as cholera and typhoid fever. Amongst the many assigned exciting causes, the only one which seems to me to have any evidence in its favor is long exposure to humidity, as living in damp houses. There is nothing to support the influence of heredity.

We come now to the *anatomical characters* of this affection. A brief study of its patho-anatomy will, I think, make clear much of its clinical history, for you will see that many of the symptoms are a natural outcome of the material damage we inevitably find in the nervous centres. Let us begin with the spinal cord. The membranes, as a rule, are healthy, and if there are any evidences of inflammation, it is recent — secondary ascending meningitis — and its cause the sacral sloughs. You may often distinguish through the pia-mater grayish spots here and there on the surface of the cord. Stripping off the membranes, these are found to be patches of an ashen hue, very much the color of the gray matter, oval in figure, irregularly distributed over several columns of the same side, or confined or nearly so to symmetrical columns; sometimes intersecting the fissures and points of emergence of the nerves; of variable dimensions, generally not more than about half an inch in their long diameter, and three or four lines in their shortest, though sometimes they are mere dots or grains, or a lineal streak or thread. Somewhat depressed, the tissue looks a little shrivelled, and feels firmer to the touch than the surrounding healthy structure, from which it appears to be sharply separated. In a few instances these patches have been found slightly prominent, turgescent, and less dense, probably indicating an earlier stage of the processus. On exposure to the air they acquire a rosy or salmon tint. On section through the cord at these points they prove to be irregular, conical masses, wedged into the white substance, the base of the wedge being on the periphery, and less in thickness than in superficial length; a glass of low power shows that they shade off into the healthy tissue, and that there is really no precise delimitation. Most often discrete, they are sometimes confluent. These drawings, representing sections of a sclerosed cord, will give some notion of their position (Figs. 1 and 2).

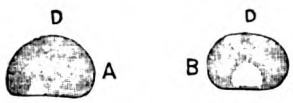

Fig. 1.

A, transverse section of the spinal cord above cervical enlargement; B, section in dorsal region; D, D, anterior fissure.

Fig. 2.

B, section in the dorsal region; C, the lumbar enlargement; D, D, anterior fissure.

Passing to the brain, we meet with the same lesion variously scattered through its several parts; but, as in the cord, they have here their points of election; when present in the brain, they are always found on the walls of the lateral ventricles, and on the floor of the fourth ventricle, a fact probably due to the vascularity of these parts. This constancy of site gives necessarily a uniformity of clinical history, and materially aids the diagnosis. The pons varolii is a frequent seat of the sclerous masses. Their most constant site in the cord are the anterior and antero-lateral columns, and in the medulla oblongata, separately or conjointly, on the olivary and restiform bodies and pyramids, but most often on the olivary bodies. This drawing shows a section of a sclerosed pons (Fig. 3).

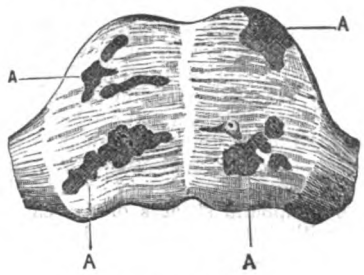

Fig. 3.

Section of the pons varolii.—A, A, A, patches of sclerosis on cut surface of upper portion.

In some instances one or several of the cerebral nerves have been affected; but with one exception, a recent case of Dr. Liouville, the spinal nerves have been free; the nerve roots are often to be seen issuing quite sound from the midst of a sclerous patch interesting a fissure.

In order that you may have a right understanding of the anatomical characters proper to cerebro-spinal sclerosic palsy, it will be necessary for me to say a few words concerning the perversions of the histological nervous elements in the several stages of the morbid processus. I shall do this as briefly as I can. By the term sclerosis we do not mean only "a thickening with condensation," as Virchow defines it. It involves textural changes both of quality and quantity, and includes creation, metamorphosis, and destruction. There is overgrowth (proliferation) and transformation, with consequent wasting of the proper elements of a part; in other words, histological substitution. Sclerosis of the nervous centres implies not only parasitic exuberance of the bed of connective tissue in which the essential nerve-structures lie, but proportional compression, deterioration, and mechanical annihilation of the ganglion-cells and nerve-tubes. These structural perversions necessarily bring functional perversions.

One word about the minute anatomy of the spinal cord. When a thin section, properly prepared in chromic acid and an ammoniacal solution of carmine and made transparent, is examined by a moderate power, a series of shining discs, with minute specks in their centre, are visible, which on close inspection are seen not to be in contact, but really separated by an apparently homogeneous substance, which fills up like a cement the interspaces. I have attempted to represent the appearance in this drawing (Fig. 4). These discs

[Fig. 4.

Nerve-tubes cut across—cylinder axis—neuroglia, or reticulum.

are the cut nerve-tubes, the light-colored spots their axis-cylinders, and the interspaces, less deeply tinted, the gangue or bed of connective tissue, called by Virchow the *neuroglia*, and by Kölliker the *reticulum*; and it is this connective tissue—neuroglia, or reticulum—which plays the chief part in the morbid processus we are studying. In it are the blood-vessels as well as the nerve elements proper. On its constituents the irrita-

ment, whatever it may be, acts; there is set up the morbid action; and the result are the tissue-changes which we recognize in the inevitable lesion. The consecutive phases and sum of these changes may be stated thus: First, overgrowth of connective nuclei and cells; second, development of fibrillary elements of great tenuity, resembling elastic tissue (fibroid substitution); third, compression and mechanical destruction of the nerve tubes; they lose their myelin casing, which undergoes granular disintegration, but their axis-cylinders, in a state of more or less integrity, persist; fourth, the lymphatic sheaths of the capillary vessels are filled with fatty granules, and their walls show nuclear proliferation. Sometimes these fatty granules accumulate in little masses. Occasionally we meet with a large number of amyloid bodies. Here are two drawings, copied from Dr. Charcot's microscopical examinations (Figs. 5 and 6).

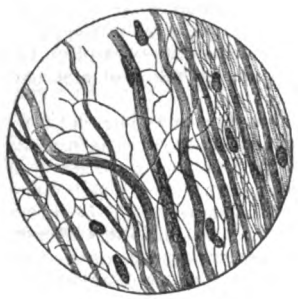

Fig. 5.

Recent preparation from centre of a patch of sclerosis of the cord, colored by carmine, and dilacerated.—In the centre a capillary vessel, with nuclei on its walls; on either side axis-cylinders, deprived of their myelin, some large, others small. Between the axis-cylinders delicate fibrils of recent formation are to be seen; on the left, nearly parallel to each other; but on the right they interlace and form a sort of irregular network. They may be distinguished from the axis-cylinders by their diameter, which is much less, their numerous ramifications, and by their not coloring by carmine. Scattered nuclei are also visible, some in connection with the fibrils.

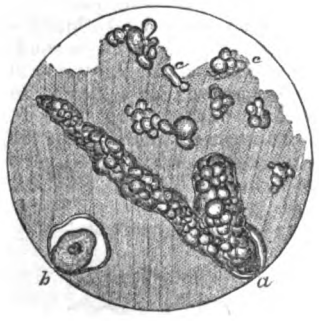

Fig. 6.

Portion of a patch of sclerosis from a recent cord.—*a*, lymphatic sheath of a vessel distended by large globules of fat; *b*, vessel cut across; the lymphatic sheath is separated from the tunica adventitia by an empty space, the globules of fat which distended the sheath having disappeared. *c*, *c*, little collections of globules of fat scattered over the field.

We meet with histological changes in the gray matter, and probably as we acquire more skill in our microscopical investigation of nerve-tissue, they will be found more constant than we have now the right to assert them to be. The nerve-cells undergo a peculiar alteration, known as *yellow degeneration*, from its ochrey tint, and in which state they no longer can be colored by carmine. We shall have occasion to study these changes more particularly when we take up some of the other progressive palsies. At present I shall only mention the fact, and point out its bearing on some of the symptoms we have noted, particularly the direct relation between the peculiar hesitating articulation, from damage to the nuclei at the origin of the hypoglossal and facial nerves which there is good reason to believe is quite constant; these points being, as I have said, one of the seats of election of the lesion.*

It must be owned that the *pathogeny* of this affection, as well as that of other kindred diseases of the great nervous centres, is obscure and unsettled. The problem is yet to be solved. I have elsewhere thrown out the suggestion whether we may not perhaps find a clue to a truer interpretation of their nature by admitting their connection with, and dependence on, some latent but definite condition of the constitution of the body which specially favors this peculiar form of morbid expression. That they are simply varieties of chronic inflammation of the brain and spinal cord, cannot, I think, be admitted. They are more than this. The causes commonly assigned for their production seem at most to be only extrinsic and exciting, and fail to explain their genesis, unless we admit some palpable pre-existing tendency. May they not then be local expressions of a general state in which a specific disposition enters as an essential factor? In sclerosis of the lung I have inclined to the hypothesis of a fibroid diathesis, original or acquired.† A careful study for some years of another form of sclerosis of the spinal cord—locomotor ataxy—has induced me to favor this theory of the pathogeny of the class of disorders under consideration. I believe if we had trustworthy statements of commemorative phenomena, we should find in all cases a foregoing stage to that recognized as the initial one, characterized by certain symptoms, as vague pains, passing spells of lessened muscular ability, etc. Is the sclerous processus in these disorders limited to the nervous centres? Is it not also going on simultaneously in some of the other organs? Is the pulmonary lesion, so frequently the immediate cause of death, tubercular or caseous, as generally stated? These are points of very great significance, and require for their solution a larger field of pathological experience than is usually the lot of one person. Many observations are necessary to settle the question, and I ask those who may have the opportunity to direct their inquiries to this end. Should the hypothesis of diathetic efficiency be borne out by clinical investigations, its practical value and application are clear, and it must necessarily bring about a change of treatment of a class of disorders which, we are now compelled to acknowledge, are uncontrollably and fatally progressive.

Progressive cerebro-spinal sclerosic palsy has sufficient individuality to secure generally its ready recognition. It is true that there always has been much confusion in the clinical history of the disorders of the nervous system in which tremor is a chief symptom, and diseases pathogenetically distinct have been treated of as one and the same. A study of this symptom shows that there are at least two kinds, differing in

* The reader who desires a fuller account of the histological changes is referred to *Notes on the Physiology and Pathology of the Nervous System, with reference to Clinical Medicine.*—New York: D. Appleton & Co. 1870.

† See article on "Sclerosis of the Lung," in Aitkin's Science and Practice of Medicine, 2d Am. ed., vol. ii., p. 763, by the Editor.

quality, and happening in distinct morbid groups. Galen noted and made the distinction between τρόμος (tremor) and παλμος (tremor coactus). Van Swieten speaks of tremor coactus, always present except during sleep, and tremor à debilitate. Of modern writers, Professor Gubler, in his excellent papers on the palsies (1860), recognized the two varieties, but failed to fix their clinical and pathological significance. Dr. Charcot was the first to establish their pathogenetic value. The want of a knowledge of this fact, and its proper interpretation and application, have led to the common mistake of describing this affection as paralysis agitans, or at least as a variety of it. But besides a distinction founded on the sure basis of pathological anatomy, there is really, when we come to analyze the symptoms of the two disorders, much clinical unlikeness. There is often some parallelism in the invasive stages. In both the approach is generally insidious; in both crawling sensations, numbness, and a lessening of muscular power, are noticed; but in shaking palsy these are almost always first felt in the arms, whilst in sclerosic palsy they are nearly constantly complained of in the legs. In the latter, the weakness in the limbs is the first motor symptom, and usually it is not until it has deepened into paralysis that tremor appears, and that may not be for years after seizure. In the former, tremor is an early symptom; motor debility does not perceptibly increase, at least for a long while. The trembling is incessant, and only interrupted by sleep or chloroform; it is but little modified whether the patient is at rest or in motion. The tremor of sclerosic palsy is never, as we have seen, spontaneous; it is invariably provoked by voluntary muscular action, by expenditure of nerve-force, and absolutely ceases when the muscular system is at rest. Another symptom, of the same order and mechanism, nystagmus, is frequently present in sclerosic palsy, and is never met with in paralysis agitans. The gait in the two diseases is eminently diacritic. A patient with shaking palsy, after the customary balancing and oscillations of the body, starts with the head and trunk bent, and trots and capers along, on the forepart of his feet, at almost running speed, with his arms semiflexed, and closely pressed against his sides. In Charcot's disease, the paraplegic shuffling gait is modified by the continual muscular snatches. There is at first titubation or staggering; afterwards, when muscular power is more faulty, the lifted leg is projected, not in a direct line from behind forwards, but the foot describes the arc of a circle, at first from within outwards; and when it reaches the extreme point of the curve, it is thrown inwards, coming to the ground with a flap, the sole striking the surface plump; at the same time there is a cadenced oscillation, an exaggerated alternate semi-rotation, of both sides of the pelvis. The facial expression is different in the two diseases; the patient with shaking palsy has often a senile, imbecile, or besotted look. Nothing of the sort is met with in the organic disease. The peculiar, measured articulation of a sclerotic is very different from the broken, jerking utterance in shaking palsy, somewhat like that in an ague-fit, or of a person unaccustomed to riding, who tries to speak when his horse breaks into a trot, and his words are ludicrously bumped out. The special deformities of the hands in shaking palsy cannot be confounded with the permanent contractions occurring in the terminal period of cerebro-spinal sclerosis. Finally, paralysis agitans is a disease of old age, whilst sclerosic palsy is one distinctly of middle life. We see, when we come to analyze the symptoms, how great is their unlikeness; the physiognomy of the two diseases is strikingly dissimilar, and it is surprising that the differentiation was not made long ago; or, indeed, is so little known even now. The importance of establishing the differential diagnosis as regards prognosis, must be my apology for dwelling so insistently upon it.

From the several forms of paraplegia its development, course, and the presence of tremor will generally serve to distinguish it. Some points of contact which this palsy has with general paralysis will be more appropriately noticed in my lecture on that subject.

When the posterior columns of the spinal cord are likewise affected, a condition I am disposed to think which happens more frequently than is generally admitted—forming those anomalous and puzzling cases of locomotor ataxy that have been recorded, and which we meet with every now and then,—when this happens, the symptoms are necessarily blended, and one set or other is predominant according to the district of the cord most damaged, and we have to separate them by careful investigation and analysis.

I can, unhappily, say nothing encouraging about the *treatment*. Of the various remedial measures that have been tried, none seem to have had the effect of even modifying the course of this cruel malady. Some of them, as the chloride of gold and phosphuret of zinc, have aggravated the symptoms. Strychnia will moderate the trembling, and nitrate of silver will do the same, except after permanent muscular contraction has set in, and then it does harm. If the views as to the nature of this and other sclerous disorders which I have suggested be correct, we shall probably be able, when detected in the early stages, to at least prevent their development, and, perhaps, even later on, to arrest their progress. I would recommend you to unite in the treatment of this form of palsy eliminating and nutritional means,—and whilst you use packing, and hot-air baths, and dry-rubbing—a daily grooming of the whole surface—and iodide of potassium, and the muriate of ammonia, try sulphur baths, arsenic, tonics, and a generous diet, in which fat enters as a large constituent; in other words, endeavor to rebuild a decaying nervous system. In giving you this advice I am satisfied that it is founded on just principles, and is the only one which promises any chance of success; but this I do not warrant. You must have perseverance, and your patient faith, and both recollect that chronic diseases require chronic treatment.

I am well aware of the difficulties you will have to encounter. You will meet not only with those inherent from the unpromising nature of the malady, but others extrinsic and circumstantial, and quite as formidable and discouraging. Some of your cases will have passed the period of possible recovery; many will be of a class, which either in their homes or in the public institutions where they may come under your care, cannot have the dietary and hygienic treatment which are indispensable to even conditional improvement, whilst those whose surroundings are more happy will be unwilling to undergo a tedious probation, with no speedy evidence of amendment; such become wearied and impatient, and hearing of this physician or that quack, or of some nostrum guaranteed by officious friends, flutter from one to another, tarrying yet a little while with each, until, after being drugged and promise-crammed, comes the true beginning of the end, and they are no longer masters of their fate. It is better to be frank with your patient, or his relatives, at the outset; explain as far as possible the real nature of the case, and the only possible means that may arrest its progress. If you fail to gain his or their

confidence, a happy issue can hardly be hoped for; but you will have done your duty both to him and to yourself, and you will eventually be better off than if you had inconsiderately deluded him with false hopes.

Original Communications.

IS THERE ANY THERAPEUTIC VALUE IN THE SO-CALLED "LOCALIZED MOVEMENTS?"*

By CHAS. F. TAYLOR, M.D.

MR. PRESIDENT:—

Some, perhaps most of the gentlemen present, may be aware that several years ago I devoted much attention to, and wrote several papers upon, the subject of the curing of disease by a kind of exercise or "movements." Now that it is generally known that I am devoting my attention wholly to orthopædic practice, I am often asked what my views are in regard to the therapeutic value of the so-called "localized movements." Although for the last half-dozen years I have been endeavoring to withdraw my attention almost entirely from the class of cases indicating this treatment, I have still been obliged to take and to treat numbers of the most characteristic of these cases; so that I have continued to have experience in the matter of such a nature as enables me to pronounce a positive opinion as to the value of the treatment under consideration.

I have been accustomed to use the term "localized movements" as being the nearest expression to the exact facts which I could find; and especially for the purpose of distinguishing certain so-called "movements" given or caused to be done with an idea of accomplishing certain definite results, from the general term *exercise*, with which they should never be confounded.

At the same time I desire to repudiate the idea which has been claimed by some, that there is anything empirically curative in any particular *movement* of itself, except as it may be physiologically calculated to correct some functional disturbance. When given for that purpose, based upon careful diagnosis, responsive to clear indications, and capable of effecting in any degree the result aimed at, then such movements are *not* exercise, *but* a treatment, and may be spoken of as such.

It is well, in the beginning, to have clear conceptions of what *is* exercise.

We all know that many diseases and derangements may be helped or cured by exercise. We may very properly regulate the degree, the time, and the manner of this exercise, according to the conditions, the capacities, and the general indications of our patients. In this way we may bring to bear a very large amount of experience, intelligence, knowledge of disease and constitution, and, above all, of *tact* in the management of patients; and they may thus derive an immediate and vast benefit from following our advice. But this is quite a different idea from that of making a direct medical agent of certain movements.

I have just said that there is no special medical effect, in the occult sense, in certain movements. It is only when they respond to indications, *and are capable of answering those indications*, that they become remedial in the sense of which I am speaking of them now.

Exercise, regulate it as you will, is, and must be, more or less general; the same as diet, though properly the subject of regulation, consists still in the administration of ordinary food. But when certain substances, such as iron, phosphates, and so forth, are prescribed because they contain the elements of substances supposed to be lacking in the system, then that would not be dieting, but medical treatment.

The fact is, we do not use movements for any of the purposes for which exercise is prescribed, but they are made to respond to a quite different class of indications. In exercise the initial expenditure of power is of the nervous force. The muscles obey the will. The will is brought into primary action; it commands, and the muscles obey. From the very nature of the case, there must be a general harmony, and more or less equality of action, between the nervous and the muscular systems. In an exercise, the first thing to be done is to make an effort; the will is brought into play, and the muscles respond in the direct proportion to the volition. There is throughout—no matter what you do—a constant and uniform reciprocal relation between will and muscular action. We find that there is a constant correspondence in the amount of expenditure of force between the nervous system and the muscular system. In other words, our muscular action depends entirely upon our volition. In fact, the volition is the initial process, and always corresponds to the amount of muscular effort which we wish to call forth. Under ordinary circumstances this is all that is necessary; the blood is circulated, the waste is carried off, the secretions are stimulated, interstitial change is effected, and so far as health can be promoted by effecting these alterative changes, so far exercise is all that may be required. But when we have a disturbance of the relations between the nervous and the organic systems; when, in fact, the volition and the muscles are thrown out of regular correspondence; when we have irregularities, with disproportionate loss of force in the one or the other, then the ordinary results of exercise which follow under other circumstances are not obtained.

Where, for instance, the person is already exhausted by over-taxing the brain, the indications for increased muscular action may be ever so strong, but we cannot secure the same result by exercise as we could if the brain and nervous system were not in this state of exhaustion.

The volition necessary to the exercise produces a much greater expenditure of nervous force, with a much less effect upon the muscles than it does in a well-balanced condition. In fact, under such circumstances, effort still further exhausts the brain-force, already too much drawn upon, while the muscles respond less perfectly than usual; so that the result is not refreshing nor invigorating, but may only add to the general exhaustion. But we must always recognize the general fact, that effort to an exhausted person, even effort of the muscles to a person exhausted by brain-labor, produces and can produce nothing but increased fatigue, because there can be no action of the muscles without a primary action of the brain.

Regulate it as you may, there is always the essential feature that the brain labor in securing the action of the muscles in all general exercise bears a certain ratio to this muscular action. Now the ratio of the relative expenditure of force, both nervous and muscular, varies with the temperament, health, state, and habits of the individual. As in laborers, for instance, where the muscular system preponderates, a large amount of muscular force is put forth by a relatively feeble volition, while in other cases, where action of the brain and nervous system preponderates, a great mental effort effects but a small exhibition of muscular

* Read (by request) before the New York Medical Journal Association, May 20, 1870.

force. It is this relative condition of the brain and nervous system, exhibited through volition as compared with muscular action, that "exercise" has no power to regulate or alter, and which furnishes the chief indication for the "localized movements" as a means of cure. By the term "means of cure" I do not intend the alterative effect which may be produced through the organism by general exercise. Increased assimilation, secretion, and muscular power are important considerations, as will subsequently appear, though important in a subordinate and special sense; but the primary idea of the movement cure is the control of the manifestations of the *nervous* system, which this treatment, rightly understood, places in our hands. We use the muscles, not because we care for them or desire to increase their strength,—this is not our idea,—but we use them as a kind of balance-wheel to regulate nervous action everywhere. This is our first and all-important consideration. The second and lesser idea in this treatment—the producing of *local effort*, in contradistinction to the general condition now under consideration—will be spoken of further along. The fundamental basis of the movement cure rests, then, upon the preponderating action of the brain and nervous system; and it is when the brain, stimulated by the intellect and will, and the cerebro-spinal system, continually excited by the temperament, the emotions, and æsthetic sensibilities, keep up the preponderating expenditure of force, and thus habitually subordinate the organic manifestations, that we need, and must have a treatment which recognizes this condition of things, and endeavor to correct it. It is a condition incident to civilization, and resulting from the intense strain brought upon the nervous system in the higher intellectual and emotional developments.

This condition is relative rather than positive; and still keeping up the comparison between voluntary effort and the using of the muscles as a therapeutic means, it is readily seen that to remove the organic system from its subordination to the greater activity of the nervous, we must institute different conditions from those of ordinary exercise, because I have previously shown that exercise, so-called, involves brain-labor in proportion to the muscular action, without regulating it. Now, the primary idea of the movement cure is to regulate and remove this relatively disproportionate action between the nervous and organic systems. Let me illustrate.

If a person, intellectual, with active brain, an emotional, sensitive temperament, and with corresponding and resulting muscular and organic feebleness, in consequence of some functional derangement be required to exercise in the gymnasium, or to ride or walk, or row or do any voluntary thing, while there may be an increase of crude muscular power, we have done nothing to correct the relative disproportion. The action of the brain and nervous system still preponderates, and the dynamic and organic powers, though augmented, are still subordinated. We have not yet touched at the root of our patient's condition, to correct it. Now, on the other hand, we have it in our power to regulate, not only the use of the muscles, how much, and the quality of the force called out, but we undertake to regulate the expenditure of the nervous force also; determining the amount and quality of the volition as well as the general condition of nervous repose and excitement in such a manner as, while increasing muscular action, we lessen the innervation required to produce it.

We would thus realize the primary object of the movement cure. It is not muscular action alone, nor is it muscular action under control, but regulated muscular action with the nervous manifestations under control. It is the use of the muscles with the nervous system in subordination. It is a temporary preponderation of the animal life through the muscles in the manner above mentioned, for the purpose of depressing nervous action and permanently exalting the organic power. We attempt nothing less than a positive change of temperament, whether natural or acquired, and realize our results only by securing more or less of such change of temperament.

Any one who supposes that the utility of the movement cure is comprised merely in manipulations or vibrations, or that it is only a better form of exercise; and especially any one who supposes that it consists of *passive* motions *very* good to amuse delicate ladies and hypochondriac gentlemen, has no just appreciation of the capacities of this treatment. I have no faith in the curative value of passive motions, vibrations, and manipulations when used alone in the class of cases now under consideration. The chief use of kneadings, rubbings, and passive movements generally, is to assist, by their agreeable quieting influence, in keeping the patient as free as possible from nervous irritability and mental excitement, until the curative treatment can take effect. And the distrust in the efficacy of the movement cure, which is wide-spread throughout the profession, is mainly due to the failure on the part of physicians to appreciate the existence of a psychological as well as a mechanical element in its employment. In this particular they have forgotten that any treatment, to be successful, must be based upon scientific knowledge as well as mechanical skill; and consigning their patients to the care of ignorant manipulators, they have been too prone to ascribe their failures to the apparent worthlessness of the treatment by localized movements (which in reality has not been practised at all), rather than to their own ignorance of the principles which underlie its proper application.

If we undertake to treat a case regardless of the basis I have pointed out, we shall be likely to fail of success. If the treatment be given while the patient is fatigued, or excited, or irritable, or when the mind is occupied, or the emotions are active, we can accomplish nothing.

The first step, then, in this treatment is to secure the voluntary control of the patient. This is always the most difficult as well as the most essential part of the treatment.

The intelligence, the feelings, and the emotions are on the *qui vive*, ready to spring into superior activity on the slightest provocation, or without a provocation, and it is just here that the patient is not in the habit of exerting self-control. Nevertheless, it is necessary that at the very start we establish complete voluntary control of our patient,—directing her thoughts and feelings, influencing the judgment, allaying apprehension, and in this and other ways placing her nervous system in a state of temporary repose, as the essential condition for beginning the use of the muscles in any curative sense. But when once we have instituted the using of the muscles, while the nervous system is thus tranquillized and subordinated, then the effect is to still further tranquillize. Muscular action, under those circumstances, produces the effect of a counter-irritation to the nervous excitability. In other words, the nervous force is husbanded and increased, with a corresponding diminution of irritability.

It is thus that hyperæsthesia is allayed, whether local or general. Morbid sensations and distresses, backache, dyspepsia, dysmenorrhœa, and hysteria, are evils of our day. They cannot exist in the exaggerated form affecting our women, except as a result of

their too active brains and too excitable temperaments, nor ought we to look for permanent relief without changing the condition which makes such suffering possible. This is precisely what the treatment under consideration proposes to do. It will be observed that we attempt to establish a more just relation between the nervous and organic forces by first establishing a voluntary subordination of the patient to the physician, and while in this condition of temporary repose of thought and feeling, to exalt the organic powers through the use of the muscles. We thus equalize the different manifestations of force and positively increase both. We have done more. The evil of nervous excitability is nervous waste; nervous waste long continued is debility, and debility begets irritability. Hence general and local hyperæsthesia and the long train of functional derangements which characterize the present age, and are admitted to be an opprobrium to our craft. Do you not see that a treament, starting with the proposition of preventing undue waste of nervous power and of equalizing the various manifestations of force by exalting the depressed organic powers, proposes also to cure many of the functional disorders,—the backaches and dyspepsias, the dysmenorrhœas and the various hyperæsthesiæ of modern society? And such I firmly believe this treatment, rightly understood and applied, is capable of doing.

But such results those who do not appreciate the psychological element in the treatment, but suppose it is comprised in certain twistings, rubbings, and stretchings, never will realize. The physician's earnest personal presence and influence is absolutely essential as a part of the conditions of treatment. It will be seen that the patient's active co-operation and support are also necessary. The patient must not be merely a passive party; she must not only comprehend the object of the treatment, which should generally be explained to her, but she must accept it, or she can never command the will to put herself in the state of temporary tranquillity necessary to the initiation of the treatment. If she oppose, and even if she give a *seeming* adherence to your requirements, it will be of no use. Reject the case at once. Whenever a patient comes to me who will not actually fall into the way I wish her, I send her home by the first train. After I find out there is any mental reservation in submitting to be controlled, I stop the useless, because one-sided, effort. The second, as it is the secondary, consideration already hinted at in this treatment, is the control of local function which it gives us. Hence the term which I have chosen as appropriate—"Localized Movements;" that is, movements given at one point for the purpose of producing an effect in other more or less distant points. We here also keep up the broad distinction between the movement cure and any species of exercise. To illustrate: We put the feet in warm water instead of giving a bath over the whole body for the purpose of warming the feet and removing sanguineous pressure in the head. We may also use the muscles of the feet or lower extremities, *while all other muscles are in repose*, for the same derivative purpose. We use a pill of aloes and nux vomica as an enema because they act only on the lower bowel. We may also use movements which act here and nowhere else for the same local purpose.

We use emmenagogues. Movements may be given more sure and powerful than any or all emmenagogues put together. To control the circulation is often to cure our patient. If we put the muscles of the extremities into gentle, firm contraction without accelerating the action of the heart and lungs, the blood flows into the extremities by the natural law of superior attraction in that direction, which it could not do if the action of heart and lungs were quickened so as to hinder the outflowing current, if not turn it inward, as may be the case in voluntary exercise in invalids. Thus we have the means of regulating the circulation. These are only a few instances. I will only just mention the obvious utility of localized movements in cases of muscular weakness and deficiency, or stiffening of the joints, &c. But the value of the treatment here, though important and more obvious at first thought, is yet of a lower order, and really of insignificant consequence, compared with that which it has been my design to explain and illustrate in this paper.

I have purposely refrained from saying anything in regard to the various means and methods of utilizing the treatment, because after all it is less important what you do than is the principle on which your procedure is based. My design has been to show that the treatment is founded on correct physiological conceptions, and thus scientific and legitimate. Legitimate only, I may add, like any other means, when in intelligent and honest hands. Because ignorant men have used and are using the term without knowing its true meaning, we should no more discard it, or the means it represents, than we should discard all remedies because charlatans sell nostrums. No treatment requires more judgment and experience, more careful diagnosis and the noting of indications, or needs more thorough knowledge of disease than the one under consideration. In fact, unless the physician possess these requisites he cannot understand or administer it at all.

Such, Mr. President, is a brief outline—a very brief outline, touching on one or two salient points—of the much-abused "Movement Cure," or the so-called "Localized Movements."

It has been set down in some quarters as one of the humbugs, and I as its chief apostle! I plead guilty to the apostleship; but if any gentleman can detect the humbuggery, he would confer a favor by pointing it out.

ANTERO-POSTERIOR SYMMETRY, WITH SPECIAL REFERENCE TO THE MUSCLES OF THE LIMBS.

By ELLIOTT COUES, A.M., M.D., Ph.D.,

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Article IV.

MUSCLES OF SHOULDER AND HIP CONTINUED—OF ARM AND THIGH.

The belly of each pleurapophysis, usually concave, is filled with a muscle that acts upon the proximal extremity of the dependent limb; in the fore, this is called '*subscapularis*;' in the hind, it is known as the '*iliacus*.' These two are obvious and unquestioned homotypes. They occupy identical situations, have the same general relations, are inserted alike, and act correspondingly. In man, the iliacus exhibits the true functions more clearly than the other does; it is the short accessory flexor of the femur, aiding the long direct one (psoas magnus). Secondarily, it rotates the thigh outward, or 'everts' the limb, as the movement in question is called; that is, its trochanteric insertion enables it to throw the knee outward at the same time that the thigh is flexed at the pelvis. This latter action is really the prime function of the human subscapularis; which, by insertion into the tuber humeri minor, rotates the

bone inward,* or 'inverts' the limb; the subscapularis only secondarily, if at all, flexes (or retroduces) the arm. In both extremities this *flexion*, *i. e.*, retroduction of the humerus and anteduction of the femur, is the prime and main office of the two muscles; their rotatory action is secondary; but one and the other may in turn become the more prominent. The proper relation, preserved in the hind limb of man, is reversed in the fore, by the unusual shape and line of traction of the muscle. In most animals, the axis of power of the subscapularis is different, in consequence of the different configuration of the bony parts; in such, the muscle's function appears undisguised. We have frequent occasion to observe how slight a change of the line of traction may modify or even reverse the action of a muscle; and need be on guard to remove, when necessary, the teleological mask.

In man, the *teres major* is a considerable muscle. It arises from the first segment above the one it acts upon, and is therefore 'short;' it lies upon the back of the scapula, and consequently retroducts the humerus; it is the short direct flexor humeri, furthering the action of the 'long' flexor (latissimus dorsi). We search in vain for its antitype in man; in this animal, the corresponding muscle of the thigh has disappeared—presumably, because there is no occasion for its presence. But we find it in the first remove from man—in the anthropoid apes; and generally, in lower animals. It appears to have been first described in *Troglodytes niger*, by Traill; † and subsequently by Wilder; ‡ Owen § saw it in *Simia satyrus;* I ‖ found it in *Didelphys virginiana.* In the last-named, it is an insignificant muscle, lying upon the front of the hip-joint, in the position of, and comparatively about as large as, what in human anatomy is known as the 'ilio-femoral ligament'—the anterior accessory fasciculus of the capsular. Under whatever modifications of size and particular points of attachment, this is the muscle that repeats the teres major; in relative position, and in function (so far as it has any), it is precisely the short direct flexor femoris. Its large development in apes, etc., is probably in subserviency to greater ease in climbing, as indicated by the first name it received. This is a good illustration of the demand that must frequently be made upon comparative anatomy for determination of special homologies.

Three large muscles lie upon the scapular arch, each of which acts upon the proximal extremity of the humerus; these are, taken in order from before backward, *deltoid*, *supraspinatus*, *infraspinatus.* Three large muscles lie upon the pelvic arch, each of which acts upon the proximal extremity of the femur; they are, taken in order from behind forward (*i.e.*, in reversed or symmetrical direction), *ectoglutæus*, *mesoglutæus*, *entoglutæus*—in our 'specialized' and not always pertinent language, gluteus 'maximus,' 'medius' and 'minimus.' These are held to be homologous, each to the other, in the order indicated. They are very constant muscles in the mammalian series, and unquestionable morphological units. Their relative positions are closely kept, however they may vary in size, shape, and function.

In man, the only mammal in which locomotion is relegated exclusively to the hind legs, and in which prehension, etc., are committed to the fore, the deltoid and ectoglutæus are both at a maximum: no brute has such shoulder-pads, no brute such buttocks. In non-claviculate mammals the deltoid might hardly be recognized by physical characters, and may have intimate connection with the trapezius; in mammals generally, the "great" gluteus* is apt to be smaller than either, or both, of the others. The mesoglutæus is usually the largest of the three; from their peculiar relations it and the entoglutæus are often more or less blended. On the scapula, however, the 'spine' of that bone keeps the spinati distinct; their relative size is wholly a matter of the position of this spine. The functions of the six muscles in question are various—so various that no general statements will apply to every case—depending chiefly upon the shape of the shoulder-blade and haunch-bone; nothing whatever can be predicated of homology on this score. In man, the deltoid as a whole abducts; but its clavicular parts anteduct, and its scapular fibres retroduct. The great gluteal is slipped a little further back than the deltoid is forward; it extends and everts the thigh with abducting power in some positions of the limbs. In beasts with a long narrow pelvis it may be nearly a pure extensor (retroductor). It is purest abductor, when, as is often the case, it lies far forward, and comes straight down over the hip like a cowl, as, *e.g.*, the human trapezius does over the shoulder. In the matter of teleological modification, as where the category of a muscle, functionally considered, is to be laid down, physical configuration is a tyrant. In man, the function of the two muscles, as above given, is very nearly the same; and both are in part 'long,' in part 'short' extensors, etc., of their respective segments.† The morphological determination (which has been made of course without reference to function) is curiously borne out, in man, by certain physical characters; deltoid and ectoglutæus are both the *coarsest* muscles of the body.

If these two muscles, inserted so low down on their respective segments, vary so in function, it is impossible that the other two glutæi, and the two spinati, inserted at the top of the bones they move, should not be found to have actions so varying as to be totally indeterminate. A little difference in the shape of the scapula and ilium—a little variation in precise insertion—with change of position in the limb itself, give lines of traction that range from flexion, through rotation in different ways, to extension. This is a matter of observation, and need not be dwelt upon.

As already mentioned, the scapular spine keeps the two spinati apart; while the lesser glutæi, without such osseous septum, may blend. An analogous case, though one probably not offering homological data, is seen in the two fleshy bundles on the hind part of the human scapula: I mean infraspinatus and what is called '*teres minor.*' Perfectly distinct in this singular animal, the two form an indistinguishable mass in some others; or, at least, no teres minor is to be seen. The question arises, then, whether this be a morphological integer; and if not, to which of the two fleshy bundles it lies between is it to be referred? Almost certainly not, I think, to the teres major, which is quite another thing, as witness origin, course, insertion, action. If not a unit, it is a dismemberment, in some

* It should be observed that what is wrongly called 'inversion' or 'inward rotation' of the humerus is really an operation symmetrical with, and the counterpart of, 'eversion' of the thigh. In both cases, elbow and knee are thrown out or away from the axis of the body. The misnomer of the action in the case of the anterior extremity appears to have arisen from our looking at the two limbs as both pointing in the same direction, instead of opposite ones. This is so obvious that it must have been recognized; yet I have not seen the fact adduced. I retain, however, the customary mode of expressing the movement, as no change in names of muscles is involved.

† *Scansorius.* TRAILL. Mem. Wern. Soc. Nat. Hist. iii., p. —.(1818.)

‡ *Scansorius.* WILDER. Proc. Bost. Soc. Nat. Hist., p. 369. (1861.)

§ *Invertor femoris*, OWEN. Proc. Zool. Soc., Lond. (1831.)

‖ *Ilio-femoralis*, COUES, Mem. Bost. Soc. Nat. Hist. (in press.)

* How far it may otherwise be modified, may be gathered from the fact, that in the *Ornithorhynchus* it extends to the bottom of the leg, and is connected with the plantar fascia.

† Sacral gluteus is 'long,' iliac 'short;' so, also, clavicular and scapular deltoid.

highly specialized animals, of the infraspinatus; all its relations, as well of origin as of insertion, and its functions, partake of those of the latter. It appears to have no posterior correlative; and could have none upon this hypothesis. If this view be incorrect, I have no idea to what muscle of the hind limb this inconstant one of the fore may be referable.*

Among muscles of the upper arm there only remain for consideration the *coraco-brachialis*, and *pectorales;* of the thigh, *pectinæus* and *adductores* (*brevis, longus, and magnus*). Taken collectively, the homotypy of these is obvious and unquestionable; but it is a matter of difficulty to determine which of individual muscles, or sets of muscles, in one limb, correspond to those of the other. Before stating the condition of osseous identification upon which the question of the muscles seems to hinge, as already hinted (Art. II., p. 194), and probably will finally rest, we may glance at some other points involved.

The *pectoralis minor*, as suggested (Art. III., p. 223.), is probably a humeral muscle, notwithstanding its coracoid insertion in man. In all birds, so far as I know, it goes to the humerus; in monotrematous mammals, next to birds, it may either be wanting, or else represented in one of the several divisions of the *p. major;* in higher mammals, it may go to the glenoid cavity; in those next to man, it goes indifferently to coracoid or humerus, or to one on one side, the other on the other, of the same *individual.* † Doubtless other facts could be adduced in favor of the view proposed. The pectoralis, then, or the *pectorales*, as the case may be, are 'long' humeral muscles, arising beyond the first segment above the one to be acted upon. They are powerful adductors of the limb, with also retroducting and rotating action. But this retroducting depends upon the greater part of the muscle being situated below the centre of motion; clavicular fasciculi may represent anteductors of the humerus, similar in action to contiguous portions of the deltoid.

The four corresponding muscles of the hind limb, above mentioned, may be regarded (taking an average of their several exhibitions in different animals) as a four-parted plane of adductors, that range from flexors to extensors according to circumstances, and have also rotatory action from their insertion in or near a 'linea aspera femoris.' In animals with a long narrow pelvis, these adductors become almost pure extensors (retroductors) of the thigh—especially the *add. magnus*, which is inserted lowest down. Only the uppermost or most anterior of the set are decidedly flexing in action; the pectinæus particularly. The last named is usually, if not always, more distinct from the three adductors proper than these are liable to be from each other; and moreover—what is to be especially remembered—it is essentially a *pubo-femoral* muscle;‡ while the rest, though arising in some or great part from pubis, are essentially *ischio-femoral.* Again: while in man the three adductors are perfectly distinct, they are not so in some quadrupeds; their origin may be side by side, their course parallel, their insertion *seriatim* in a line along the femur, and their relations of contiguity liable to be changed into those of continuity. It is sometimes difficult to tell which is which of the several subdivisions. It appears not improbable, therefore, that the three adductors represent a morphological unit. The pectoralis is found similarly subdivided in some animals.

It is obvious that we may argue either way in respect of particular determination of the several muscles in question; although on the whole, and especially taking position into prime account, it is more reasonably, probably, to be concluded, that the adductors represent the pectorales, and the pectinæus the coraco-brachialis. This view would be strengthened, if not demonstrated, should Wyman's identification of coracoid with pubis, and clavicle with ischium, prove the only tenable one. But at the same time it is to be remembered, that there are reasons for regarding ischium as coracoid, and pubis as clavicle; upon which hypothesis the converse determination of the muscles must be held. The latter is Wilder's view, and apparently, the grounds upon which it is based. I incline at present to that first given.

This finishes our survey of the muscles of the arm and thigh;* in our next we shall examine those of the forearm and leg.

* Wilder finds its correlative in the *glutæus minimus:* we are at one, therefore, in this respect, if the teres minor be a part of the infraspinatus, as I think. So we are, also, in respect of glutæus medius and supraspinatus, as correlatives. But he refers infraspinatus to *psoas magnus;* this I consider inadmissible, for reasons given in the last paper.

Finally, another view suggests itself: Let the two lesser glutæi and the two spinati remain as homologized in the above text, but the teres minor be considered distinct from the infraspinatus; then the teres minor becomes a possible analtype of the *psoas magnus.* We have only to regard it as slipped a little way from the belly to the edge of the back of the scapula—a sort of disintegration of the subscapularis, as the psoas magnus may be of the iliacus.

† Thus Wilder, Cont. Comp. Anat. Chimpanzee, l. c., p. 859:—The p. minor "is quite variable in its insertion, which is sometimes into the coracoid process, as in man, sometimes into the great tuberosity of the humerus; in this chimpanzee the former was the case on the left side, but the latter on the right side."

‡ In marsupials, the pectinæus arises even above the brim of the pelvis; *i. e.*, from the base of the movable marsupial bones.

* The *tensor vaginæ femoris* appears to be a teleological interpolation, for the better action of the great extensor of the leg. It is virtually a sort of extensor cruris, but really appears not to belong to the category of muscles moving the framework of the body. It occurs chiefly in higher animals. In birds, Owen considers it as included in the *rectus femoris* ("abductor magnus.") In the anterior extremity, nothing equal to it has been noted.

In many mammals there is a muscle of the humerus not found in man:—the *dermo-brachialis.* It is a cutaneous muscle, apparently a specialization of the *panniculus carnosus* of quadrupeds of which the *platysma myoides* is our remnant. It is like a duplicate or supernumerary latissimus dorsi, which it overlies; arising from the skin of the back, loins, sides, etc., broad and fan-shaped, converging anteriorly to be inserted in various ways in the humerus and elsewhere, usually with or near the latissimus. It seems to have no posterior correlative. But in one animal, at least, (*Ornithorhynchus paradoxus.*) the whole panniculus itself is disposed with nearly perfect symmetry. It begins on the tail, and ends on the head, and forms a complete muscular tunic, in which the animal is enwrapped, with legs and arms protruding through four oblique slits, all alike.

Progress of Medical Science.

New Instrument for the Operation in Fistula in Ano.—In a recent case of operation for fistula in ano, instead of the usual plan of introducing the bistoury through the fistula, and bringing it down through the sphincter, Mr. Weeden Cooke used a scissors constructed for him by Messrs. Weiss. The finger having been introduced into the rectum as a guide, Mr. Cooke passed one blade of the scissors into the fistula up to its extreme point, and then the other blade into the rectum. The two blades were then connected by a small screw, and by one rapid scissors action the sphincter was divided.

As the position required for this operation renders it unadvisable to give chloroform, and as the patient, unless very carefully held by assistants, often shrinks so as greatly to embarrass the surgeon, any plan which insures rapidity is advantageous, and it is with this view that the mode of operation described has been suggested. It was thought that it caused less pain than the bistoury.—*Lancet.*

The Pancreatic Ducts.—M. Claude Bernard, in noticing at the Paris Academy of Medicine a communica-

tion respecting pancreas, said that he considered that the canals discovered by the physiologist Weber are of uncertain use. They are extremely fine, and become visible only by injection. M. Legonis had found, after five years' investigation, that they were the excretory canals, and that they often constituted the entire pancreas. In many fishes the pancreas is altogether absent, but it is replaced by canals which receive the name of disseminated pancreas.

Preservation of Animal Vaccine Matter.—M. Warlomont, of Brussels, has addressed a letter to the Academy of Medicine of Paris, in which (although a thorough advocate for animal vaccination) he remarks that many of the objections to it are well founded. For instance, the animal vaccine matter cannot be preserved, for one hour's exposure to air destroys all its efficacy.

The director of the Royal Institution of Belgium has recognized the fact that it can be kept neither in tubes nor on glass plates. He has, however, invented a method for its preservation. M. Warlomont takes small ivory points and dips them in strong gum water. This layer being dry, he applies the vaccine matter taken from the heifer, and at once again applies a layer of gum.—*Med. Press and Circular.*

Uterine Hemorrhage Arrested by Heat to the Spine.—Professor Beneka, of Marburg, has arrested hemorrhage from the uterus in several cases by the application of heat to the spine. He thinks much can and will be done by the principle of applying cold and heat to the spine. As far as the heat is concerned, his experience has fully convinced him of its extreme usefulness in certain cases, reports of which he has kindly promised to send to us for publication.—*Med. Mirror.*

Intermittent Pulse.—Dr. Benj. W. Richardson (*Am. Jour. of Insanity*) has shown that intermittent pulse is a physical symptom of cerebral and mental origin. He has never met with a case in which the disorder was not sequential to some anxiety; shock, fear, sorrow, or their similars. He has met with case upon case in which the sufferer has been able, from his own perception of the intermittency, to register the precise moment when the injury causing it was inflicted.

Dr. Liveing on Skin Diseases.—The *Med. Press and Circular* furnishes the following brief synopsis of Dr. Liveing's recent work: Under the head of eczema, boiled water dressings are recommended locally, covered with oiled silk, if coolness is not required. The use of a lotion containing five grains of caustic potash to an ounce of water is advised in some chronic cases. Lupus is treated by acid nitrate of mercury, and solid nitrate of silver with cod-liver oil as a drug. In ptyriasis he recommended a mixture of white precipitate, and red oxide of mercury ointments locally. Prurigo in almost every case, he says, is due to pediculi. Heat the cloths and use stavisagre ointment. He recommends lotion of atropia in cases of pruritus, and application of nitrate of silver. Fowler's solution is recommended for psoriasis, and, in some cases, carbolic acid and copaiba; soft-soap and tar-ointment as local applications. In syphilis, he likes perchloride of mercury for secondary eruptions, and blue ointment for infants suffering from syphilis; sometimes iodide of potassium is preferred in secondary syphilis and tertiary syphilis as a rule. In fact, in this he seems to re-echo the opinions of M. Hardy. In tinea decalvans the bald spots should be blistered every fortnight by liquor epispasticus.

In favus a strong sulphurous acid lotion is recommended, and the hairs should be pulled out. In ringworm the hair should be cut short and the bald patch blistered with acetum cantharidis, and in some cases the hairs extracted. Ptyriasis and versicolor are easily cured by sponging the skin with sulphurous acid of the B. P. Warts are to be touched with glacial acetic acid, and blistering fluid sometimes will do; white-precipitate ointment is recommended for pediculi capetis. Scabies is treated by sulphur ointment, or sulphur and potash ointment, after the patient has taken a hot bath. Sycosis is treated by epilation.

Syphon for the Stomach Pump.—The *Deutsches Archiv* has published a paper by Dr. Jürgensen, of Kiel, which fully corroborates all that has been said as to the efficiency of a syphon to replace the stomach pump. The stomach may be readily emptied and as readily washed out by this simple mode. A sound has only to be placed into the stomach and its upper end attached to the short arm of a glass syphon by india-rubber tubing. The patient must then cough or retch, and the stomach, if full, will rapidly be emptied. Dr. Jürgensen employs this mode to wash out the stomach regularly with water, or with acid or alkaline liquids, in cases of gastric disease.

Purulent Infection and Erysipelas.—Dr. Lefort has read to the Medical Academy of Paris a memoir on the purulent infection and erysipelas, too frequent and too formidable complications after operations in nosocomial practice in Paris. The treatment of Dr. Lefort consists in covering the wound with one or several compresses steeped in a mixture of water and of 1-10th of camphorated spirits. It is necessary to excite the wound, he adds, in several proportions, according to the cases, by a solution of sulphate of zinc to 1-10th, and envelop all corresponding parts of the limb with a piece of oiled silk, maintaining it in place by several turns of a bandage. He takes care that the wrapping shall be compact and the wound hermetically sealed.

The evaporation of the liquid imbibed by the compresses not being affected, the product of the insensible evaporation over the surface of the skin being retained, the wound is in a kind of continual bath.

Without the inconvenience of a maceration, which softens the tissue and seems to diminish its vitality, without the weariness occasioned by the necessity of apparel difficult to employ, he obtains the advantages of the bath of Major, of Langenbeck, of Vallette of this city, or of the continual irrigation. The sedative action of the camphorated water, modified, according to the indications, by those of medicated solutions, tempers the inflammation and keeps it within the limits necessary to the work of cicatrization. The *pus*, sheltered from the permanent contact of the air, does not suffer any modification; it remains, it is true, in contact with the wound, but the result proves the innocuity of unaffected pus. The compress, not able to dry itself, does not adhere to the wound; it is loosened easily, and there is no fear of excoriation.

So all needful conditions of healing are obtained by this method: The shelter of the wound from the contact of the air, the modification of it—if it is necessary—by application of medicinal substances, the maintenance of the humidity of the wound, the impossibility of the decomposition of the matter, the perfect neatness of the wound, the non-adhesion of the pieces of decaying tissue, and the destruction of the germ which might be the point of departure of infection.

Dr. Lefort cites several cases, and gives some statistics which confirm his considerations and treatment in

drying up, also the action of this mode of treating diffused phlegmon.—*Med. Press and Circular.*

Consumption and Cancer.—Pulmonary consumption is derived from cancer, according to Dr. Burdel. This practitioner, from 100 cancerous parents, has seen seventy-five times pulmonary consumption reach the children, and he has seen fifteen times pulmonary consumption derived from other diseases.

The cancer, then, according to this new doctrine, comes immediately after pulmonary consumption itself in its power to produce tuberculous diseases in the following generations. It is so that out of 100 families who have furnished the cases of Dr. Burdel, 79 afflicted with cancer have produced by direct and secondary inheritance 237 tuberculous cases.—*Med. Press and Circular.*

Temperature of the Cranial Cavity.—The temperature of the cranial cavity has lately been made the subject of investigation by M. Mendel, of Pankow, near Berlin. Fick had already found the normal temperature of the cranial cavity to be lower than that of the body generally. Jacobson and Bernhardt had likewise noticed the inferior temperature of the blood arriving at the heart by the superior vena cava, as well as the depression it produces in the right cavities. M. Mendel corroborates these results, and finds constantly that in health there is a difference amounting to seven-tenths, or even to one degree centigrade, between the temperature of the cranial cavity and the rectum in the rabbit; and that in the dog the difference is almost as well marked. Duméril and Demarquay have shown that the temperature of the body is lowered by the action of chloroform. Bouisson arrived at the same results, as have also Sulzynski and Scheinnesson, the experiments of the latter having been performed upon man. The differences observed by Mendel between the temperatures of the cranium and the rectum are much more clearly marked when the animal is under the influence of chloroform than when in a normal state. Chloroform lowers the temperature generally, but especially that of the cranial cavity. The effects produced by chloral on the temperature of the body generally have been already studied by Demarquay. This author has found that the temperature of the body falls several tenths of a degree. M. Mendel arrives at the same results in regard to the temperature of the cranial cavity, except that he has observed it to fall to a still greater degree than the general temperature. Deguix, Dupuy, Leuret, and Gscheidlen have found that, after a moderate or therapeutical dose of morphia, the temperature of the body rises; though when administered in a poisonous dose it falls. Mendel again arrives at the same law—viz., that the depression of temperature is more marked, and occurs more rapidly, in the cranial cavity than in the rest of the body. In poisoning by alcohol, the temperature of the cranial cavity rises to such a point that it exceeds the temperature of the rectum.—*Lancet.*

Late Atmospheric Researches.—At a meeting of the Royal Irish Academy, held June 13th, Dr. George Sigerson, F.L.S., read a paper entitled "Further Researches on the Atmosphere." He stated that the results of analyses of *ordinary atmospheres*, such as those of the town, the country, and the sea-breeze, which he had communicated to the Academy on a former occasion, had been fully confirmed by later investigations. The subject of the present paper was the examination of *special atmospheres*, of which the author proceeded to speak in detail. In the air of an *iron factory* he found a dust of a black color and friable in nature, which was composed of carbon, iron, and ash. The iron was present in small rough and jagged pieces, and also in hollow balls averaging one two-thousandth of an inch in diameter. These iron globules were translucent. In *shirt-factory* air, filaments of linen and cotton were present in great numbers, and minute eggs were also seen under the microscope; but these were, perhaps, of accidental origin. *Scotch mills*, from the nature and quality of the spongy, spiky dust which abounded in them, Dr. Sigerson branded as human slaughter-houses. In the dust of printing-offices, perceptible traces of antimony were detected by chemical examination. *Stable air* was shown to contain equine hair, cuticles, epithelium, moth cells, ovules, various fungi, besides a large amount of other forms of organic matter. The air of a dissecting-room was also largely impregnated with organic particles, and a microscopical examination of the dust collected resolved it into portions of white and yellow fibrous tissue, fibrillæ of voluntary and involuntary muscle, fragments of epithelium, and *débris*. In *smoker's air*, numerous globules of hot nicotine were observed, of a pre-eminently hurtful character. Very similar to this was the air inhaled by *tea-tasters*, in which, besides particles of cellular tissue, a narcotic oil of very deadly properties abounded in the form of minute cells. In concluding his paper, Dr. Sigerson took occasion to remark that the carbon which existed in the atmospheres of large cities was of use in counteracting the injurious effects of the presence of albuminoid ammonia, lately described by Dr. Angus Smith, of Manchester, and that consequently limits should be placed to the consumption of smoke in factories, etc. The paper was illustrated by large diagrams representing the microscopical appearances of the different forms of dust spoken of above.—*British Med. Journal.*

Treatment of Typho-Cerebral Fever.—A. Given, M.D., Louisville, Ky. (*Chicago Med. Examiner*), in his able paper on "Typhoid Fever," treats the *cerebral type* on general principles, but early directs attention to the delirium or head symptoms; for without sleep the patient will die, and that speedily. He has found nothing so beneficial in controlling the delirium and promoting sleep as the following:—

℞ Chloroform		ʒ ij
Pulvis acaciæ Saccha. alba	āā	ʒ iij
Tr. Opii Deodor.		ʒ ij
Bromide Potassa		ʒ iv
Aqua Menthæ		℥ ij

Mix, and give a teaspoonful every two hours, until the patient is quiet. If the head is hot it may be frequently bathed with cold water. If the bowels do not move regularly, the enema of warm water and salt may be used from time to time.

Sir H. Thompson on Lithotrity.—At a meeting of the Royal Medical and Chirurgical Society, on May 10th, Sir H. Thompson gave the result of 184 cases of lithotrity in adults. The mean age of these patients was sixty-one, the recoveries 93 per cent., but, omitting five cases of death not due to the operation, the mortality was only four per cent. Lithotrity was an eminently successful operation; he had never lost a patient after crushing a stone no larger than a small nut. When employed for stones the size of a chestnut, a certain percentage of deaths may be expected. All calculi less than an ounce in weight should be crushed. Mr. Cadge, of Norwich, regarded the recurrence of stone as the weak point in lithotrity. It is difficult to get rid of the last little fragment, and if left the stone is certain to recur.—*Med. Press & Circular.*

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CONTROVERSIAL PAMPHLETEERING.

FROM present indications, the profession are having a lively time in abusive discussion. Every one knows that we as a body have always been disposed to quarrel at the slightest provocation;—it is a fact of our social history established hundreds of years ago—but within the past year or two we have been more than usually belligerent. Not content with a simply oral adjustment of what are technically considered our individual rights, we are getting into the habit of washing our dirty linen before as large audiences as we can obtain. The arena of the society-room is exchanged for the pages of some medical journal; and not content with this publicity, reprints of these elaborate articles are made, which are mailed by the thousand to all the accessible and respectable physicians in the country. The pamphlet mania is getting to be something fearful. No sooner is the slightest difference between two medical men established, than Dr. A. considers it his bounden duty to expose the fraud of Dr. B.; when Dr. B., for the sake of *his* reputation, must reply, and pamphlet after pamphlet is thrust before the reader. So far as this may go towards the establishment of any scientific point, it is justifiable, and eminently proper; but who ever knew it to stop there? On the contrary, science is really the cloak for the bitterest personal animosity. This is evident enough in the personal manner in which these discussions are almost invariably carried on. It is apparent that the aim is not to avoid personalities, but to bring them in whenever a favorable opportunity offers, and at the same time to give just enough of scientific data to make the dose as palatable as possible.

If Dr. A. desires to expose Dr. B., let him do it as becomes an individual in search of the naked truth, but not as his implacable foe. Let him conquer him by scientific truths, not by unmanly insinuations, disgraceful epithets, and unbecoming language. If B. is crushed to the earth as a mistaken, misguided, and deluded wretch, who has spent his life in vain, and has learned nothing by experience, there is no real need of adding to this ignominy by posting him as a liar, or even as a thief. Yet this is done in more or less elegant and covert language in the great majority of the controversial pamphlets or reprints that are flooding the medical market. The punishment to the worsted individual is terrible enough when it stops at the imputation of utter ignorance of the ordinary principles of medicine. Is there really no mercy in these pamphleteers? Can they not consider the dreadful responsibility which belongs to the man who deliberately draws his quill against his brother, with the full appreciation of its terrible power? We believe if the majority of these writers really imagined the irrevocable injuries they were capable of inflicting upon their antagonists, they would be overcome with remorse. What if the pamphleteer does establish for himself the reputation of a satirist, a man of science, and a writer; can it counterbalance the terrible thought that the incontrovertible arguments he has used, and the incontestable facts which he has asserted, were the very thunderbolts of annihilation to his opponent? If the victor settles for all time the reputation of the vanquished one, he may be actually depriving him of a livelihood which otherwise he might obtain. Pamphleteers, think of this! In meting out your justice, remember mercy.

Another important point for the consideration of this class of writers is whether or not the profession at large really care at all concerning the great point at issue; whether the true *casus belli* is recognized. As most of these gentlemen believe these pamphlets excellent media for notoriety, it becomes them to seriously weigh this question, otherwise all their brain-labor, research, and lampoonery may be expended in vain. To such as are in doubt we commend the full benefit of the same, while to those who are confident that they can interest their audience we would suggest that a pamphlet of fifty printed pages is sufficiently lengthy to convince any unprejudiced mind; all beyond that being sheer waste of labor, printers' ink, paper, and brain-matter.

As the object of all such explanations is the elevation of the dignity of our common calling, and the establishment of strictly scientific truths, it is obvious that their circulation among the laity cannot be attended with any great benefit, save to the writers of the same. If any such persons may be tempted, as many have already been, to send copies of their pamphlets to the different public papers, they should first consider, as individuals, whether the profession, as a body, would be complimented by fathering the sentiments they may choose to utter.

Finally, we advise all those who wish to maintain the enviable reputation of gladiatorial pamphleteers to lose no opportunity for attacking everything and anything, and in each case be sure of the opportunity for one or two convincing, elaborate, and overwhelming replies; making it, at the same time, apparent to the reader that nothing but the pure love for science prompts them to continue the controversy. Who will

be the author of the next pamphlet, and who the fortunate respondent? We ask this question because are convinced that the end is not yet, and that many righteous individuals are only waiting for fair opportunities to call forth their special talents.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

STATED MEETING, JULY 7, 1870.

DR. H. D. BULKLEY, PRESIDENT, in the Chair.

"Foreign Bodies in the Air-Passages," illustrated by two rare Cases, by Gurdon Buck, M.D., Surgeon to New York Hospital and St. Luke's Hospital, &c., &c., &c.

THE following gentlemen were elected by ballot Resident Fellows of the Academy:—Drs. John C. Peters, Faneuil D. Weisse, Frank P. Foster, Harvey C. Gay, Wm. O'Meagher, and Theodore Walser.

DR. BUCK then proceeded to read the two following interesting and rare cases:—*1st. Case of fish-bone lodged in larynx during a period of fourteen years—trachea tube inserted after laryngo-tracheotomy and worn twelve years.*

On the 22d of May, 1855, Mrs. F. C. J., æt. 25, daughter of a physician residing at N. R., while eating small fish at dinner, had a bone lodged in her throat, which at once caused great disturbance and violent efforts of coughing and hawking to disengage the foreign body. Her father improvised a probang and passed it down the œsophagus, and resorted to various other measures for her relief, but without success. She could reach the bone on the left side of the throat with her left fore-finger and perceive that the end of the bone pointed upward. The same evening at about 9 o'clock, while taking some food, the bone became dislodged and complete relief followed, to her great joy and that of her family. For eight days she continued well, with the exception of slight remaining soreness, and then began to cough. As she had been somewhat exposed in a visit to the city, the cough was attributed to her having taken cold. Soon the cough became croupy and sonorous, and very frequent, especially at night. The voice began to be affected with hoarseness, at first only at night, when suffering from attacks of dyspnœa; subsequently, however, the hoarseness became constant. Suffocative attacks at night increased in severity, and sometimes were very alarming. The use of opiates at bed-time, such as Dover's powder, or McMunn's elixir of opium, became indispensable, and would often keep her easy for the night. There was nothing visible or tangible in the throat. Deglutition was easy. Sometimes she felt pain darting through the throat, and also soreness in a particular spot on the left side when pressure was made with the finger over the thyroid cartilage. The cough has been without expectoration from the first. July 7th, 1855, nearly seven weeks after the accident, Dr. Buck saw the patient for the first time, in consultation with Dr. Voris, her attending physician. The conclusion arrived at was, that Mrs. J.'s ailment was unconnected with the accident of the fish-bone. An application of leeches over the larynx, a mild mercurial course, alum emetics, and inhalations of vapor were advised and tried, but were followed by only temporary benefit. The mercurial was afterwards resumed and blisters applied over the larnyx. Anodynes were also given at bed-time. No permanent benefit followed; on the contrary, her condition grew steadily worse. Dyspnœa became constant by day as well as by night, and was aggravated by every exertion. The patient having come to the city, a second consultation was held on the 29th day of September, 1855, in which Drs. Camman, Willard Parker, and John Watson joined the original consultants. Each gentleman visited and examined the patient separately the day before. After a full discussion it was unanimously agreed that the origin and persistence of the symptoms depended on the presence of the fish-bone in or near the larnynx, and that a surgical operation was the only resource from which relief was to be expected. As the patient's general health was steadily deteriorating, and the suffocative attacks had become more frequent and severe, another consultation was held on the 7th January, 1858, in which Dr. Camman, Profs. A. Clark and Jos. M. Smith, as physicians, and Prof. W. Parker and Dr. John Watson as surgeons, took part with the speaker. After a free expression of opinion and discussion the following conclusions were arrived at:—

1st. That there was no evidence of tuberculosis or other disease in the lungs or elsewhere.

2d. That her condition is to be attributed to the continued presence of the fish-bone swallowed in the month of May, 1855; and inasmuch as a sore spot has uniformly been referred to the left side of the thyroid cartilage, and to a point corresponding to the situation of the left ventricle of the larynx, it is thought possible that the bone is imbedded in the ventricle.

3d. That inasmuch as no relief has been afforded by any medical treatment hitherto employed, a surgical operation is required, and should be resorted to without delay.

4th. That the operation of laryngo-tracheotomy is to be preferred in this case.

Operation.—On the 10th January, 1858, at 2 o'clock, patient was placed on a narrow bed facing a window, and the bedstead elevated at its head so as to form an inclined plane. Ether having been administered, an incision was made in the median line from the os hyoides to the third tracheal ring, and the tissues successively divided till the cartilages were laid bare. The hemorrhage, which was moderate, was allowed to cease before incising the larynx. The crico-thyroid membrane was first pierced in the median line, and the incision continued upward from the upper edge of the cricoid cartilage through the lower half of the thyroid cartilage. At this moment the air rushing in through the opening, the lungs seemed as though taken by surprise, and for an instant intermitted their action. In order to afford prompt and free access of air to the lungs, he immediately extended the incision downward through the cricoid cartilage and the two upper tracheal rings, and stretched the edges of the opening apart. As soon as the respiration had become quietly established through the wound, the upper half of the thyroid cartilage was divided very exactly in the median line through the notch. The next step was to make a thorough inspection of the interior of the larynx, especially of the left ventricle. The attempts to do this, by stretching apart the edges of the wound, excited a good deal of disturbance, such as coughing and suffocation, so that they were compelled frequently to desist, and allow patient to recover herself. After an hour and a half occupied in these proceedings, patient became so much exhausted that it was thought most prudent to postpone further examination to the following day. Respiration being performed with entire facility through the wound, a tube was not inserted. The examination, so far as they had been able to make it, ascertained the existence of a spot, of the size of a small split pea, on the inner surface

of the cricoid cartilage, posteriorly and to the left side, where the mucous membrane was wanting, and the surface was of a deep red or purplish color. The cartilage was not exposed, nor could a probe detect any track leading from it. The ventricles appeared to be in a normal condition, and the finger passed upward through the glottis could perceive nothing abnormal. The wound was left open and kept covered with compresses wet in tepid water. The pulse, which had risen to 120, subsided to 100. The succeeding twenty-four hours were passed comfortably. A viscid mucous expectoration stained with blood was expelled through the wound by coughing. On the following day at 12 o'clock the examination was resumed, and the divided edges of the larynx were stretched apart, and the interior surface carefully inspected. The spot already noticed was seen. No pus was observed on its surface or in its neighborhood.

In order to establish a tube in the trachea, it was necessary to expose and divide two additional trachea rings at the lower angle of the wound. After doing this the upper ring was detached from the lower edge of the cricoid cartilage to the extent of two lines on either side of the vertical slit, and a triangular piece clipped away with scissors from each angle, including portions of three upper rings. This converted the vertical slit in the trachea into a triangular opening, with its base upward. A silver trachea tube was then inserted and secured by tapes passed around the neck. The wound above the tube was closed in the following manner: 1st. By a single suture inserted into the muscular and aponeurotic tissues covering the thyroid cartilage on either side of the median incision. This held the opposite edges of the cartilage in exact coaptation. 2d. Four interrupted thread sutures were inserted into the edges of the integument between the tube and upper angle of the wound. 3d. The whole was supported by strips of adhesive plaster crossing from one side of the neck to the other between the sutures. Before closing the larynx the spot on its inner surface was freely touched with nitrate of silver.

The constitutional disturbance following the operation was at no time very considerable. Within one week the pulse subsided to below 80. The cough was variable, sometimes severe and in paroxysms and at other times suspended for long intervals. The expectoration ceased to be bloody after the first twenty-four hours, and during the first five or six days was opaque, viscid, and rather copious, and then gradually became transparent, frothy, and much less in quantity. During the first week the tube required to be changed twice in twenty-four hours; after that but once a day. There was no appearance of pus at any time in the expectoration, nor was there any feeling of soreness around the track of the tube. The respiration through the tube was from the first perfectly free. The wound healed above the tube by first intention, and at the end of three and a half weeks it had also healed around the lower side. Three weeks after the operation a tube perforated at its middle on the convex side was worn, and with it the patient enjoyed the use of her voice by corking the outer orifice of the tube. At first articulation was performed in a hoarse whisper, and respiration through the larynx was attended with some effort, but gradually the obstacles diminished; and during the long period of *twelve years* that she was obliged to wear the trachea tube she abated nothing of her accustomed activity in the discharge of her ordinary duties. In the summer season she often accompanied her friends on distant travelling excursions. The tube being concealed from view by the arrangement of her neck-dress, there was nothing to betray her condition to casual observers. A slight huskiness of voice, and that by no means conspicuous, was all that was noticeable.

One morning in the month of June, 1869, the patient having as usually removed the tube to cleanse it, noticed something sticking to its outer surface on the left side near the fenestrum, to which she called her father's attention, and which, on minute examination, proved to be a small fish-bone, about five-eighths of an inch in length, curved, flattened, and triangular at one end, but growing smaller and tapering at the other end.

For several weeks previous to this occurrence she had suffered from a frequent accumulation, around the inner end of the tube and the opposite surface of the trachea, of viscid tenacious secretion that would obstruct breathing and provoke violent coughing paroxysms for its expulsion.

Often she was obliged to remove these accumulations by seizing the matter with forceps inserted into the opening after first removing the tube. Sometimes they came away in a tubular shape, and were of very tough consistency. Complete relief always followed their removal.

Encouraged by the result of the laryngoscopic examinations made by Dr. F. Simrock, Dr. Buck removed the tube in January, 1870. The patient continued to be disturbed by the accumulation of viscid secretions in the trachea and the cough provoked by it for one month, when the external opening, after gradually diminishing in size, had become reduced to less than one-fourth its original dimensions, and the tracheal secretion had begun to make its way out through the larynx and mouth instead of through the tracheal opening.

Thirteen weeks having elapsed since the opening ceased to diminish in size, it was decided to perform an operation for its permanent closure. Ether having been administered, the margin of the orifice was pared away, and an incision extended a short distance above and below the opening. The skin was then dissected up on either side so as to permit the fresh-cut edges to be brought together and broad raw surfaces to be coapted, which was done by means of three pin sutures wound with cotton yarn and intermediate thread sutures.

A final inspection was made June 30th, and everything about the wound was doing well. A vertical linear depression on the surface of the trachea was all that could be felt through the superjacent skin to mark the situation of the tracheal opening. The reproduction of the excised portion of tracheal rings appeared to be complete. The parts involved in the operation were sunken in a hollow below the level of the surrounding surface. The tracheal secretion had lost its tough, viscid character, and was much diminished in quantity. Respiration had suffered no impediment since the closure of the trachea.

The question of chief interest suggested by this case relates to the whereabouts of the fish-bone during these long fourteen years of its sojourn in the larynx. The most satisfactory conclusion at which the author has been able to arrive in the retrospect of the history of the case is, that the bone, after producing violent disturbance, was suddenly dislodged while the patient was taking food, and located itself in a situation where for a few days it ceased to provoke any disturbance. At length, however, it made its way into the left ventricle, where it lay concealed, and escaped detection when the cavity of the larynx was laid open and explored. This conclusion is, perhaps, strengthened by the fact that a local soreness was felt by the patient, during the whole course of her suffering, on the left side of the larynx, and was referred by her to a spot corresponding to the

situation of the left ventricle, where outside digital pressure also produced pain. It will also be remembered that the fish-bone, when first discovered, was adhering to the surface of the trachea tube on its left side, and near its middle. It is difficult to conceive of a substance like the fish-bone imbedding itself in the soft parts lining the cartilaginous parietes of the laryngeal cavity without ulceration and suppuration. The membrane lining the ventricles, however, being lax, and more or less wrinkled, the fish-bone, so minute as it was, might easily be concealed in its folds, and escape detection. That it should have remained for so long a time is certainly very remarkable.

2d Case. *Removal of morbid growth from the cavity of the larynx by laryngo-tracheotomy. Subsequent escape of trachea tube into the right bronchus, and its removal by operation.*

John McGivney, æt. 38, native of Ireland, coachman, was admitted into St. Luke's Hospital with laryngeal trouble. The absence of all local inflammatory symptoms, together with the presence of symptoms of laryngeal obstruction, which developed themselves gradually, pointed to the existence of a growth in the interior of the larnyx as the cause of the trouble. This conclusion was confirmed by two laryngoscopic examinations made by different experts. A growth (not papilliform) was seen in the cavity of the larynx below the vocal cords. On account of the increasing dyspnœa and the severity of the suffocative exacerbations, it was decided to resort to tracheotomy without further delay. A consultation having been summoned, the operation was immediately performed, without etherization. The operation was a difficult one on account of the struggling efforts of the patient, so that in the extreme movements of respiration the cricoid cartilage would descend nearly to the level of the upper margin of the sternum.

Nothing was attempted for the removal of the intralaryngeal growth until the following day. After etherization, an incision was continued up to the os hyoides, and the thyroid cartilage exposed. The incision was also continued upward through the thyro-hyoid membrane. This permitted the two halves of the larynx to be drawn wide apart, exposing its cavity to full view. A careful examination ascertained that it occupied the right wall of the larynx and involved the ventricle and both vocal cords, underneath which it had originated, and which, together with the neighboring lining membrane, it had elevated and pushed inward so as considerably to encroach upon and narrow the laryngeal cavity. A small prolongation of the growth, somewhat pedunculated, emerged from the ventricle between the cords and protruded further into the cavity. To remove the mass entire an incision was made circumscribing its base and extending half an inch below the inferior vocal cord. The whole mass was detached from below upward. After dividing its connection above, it was found that the right arytenoid cartilage had been excised and formed a part of the mass removed. No troublesome hemorrhage followed. After the subsidence of the swelling he wore a hard rubber tube of medium size, corked at its outer end. His respiration was perfectly easy, and his voice remained very much the same as before the first operation.

The patient continued to be well up to the end of the thirtieth day after the operation, when a very extraordinary accident occurred. Having gone to bed as well as usual, the patient was waked out of sleep by violent coughing and struggling for breath. Soon, however, he became quiet and fell asleep, but was again waked up late in the night by a second attack, similar to, but less violent than the first. He now discovered that his trachea tube had disappeared, and, alarmed at the discovery, sent for the house surgeon, who on examination found, to his great surprise, that the tube had disappeared, while the plate piece which had supported the outer end of the tube, and to whichthe tape fastenings were attached, was undisturbed. On the following day the patient continued perfectly free from any disturbing symptoms, and had no consciousness of any effect from the accident. Seven days after the accident Dr. J. R. Leaming had his attention called to the case, and instituted a careful auscultatory examination of the patient's chest, and declared that the tube extended through the right bronchus into the trachea. An incision having been made, a flexible silver probe, seven inches long, fixed in a handle, slightly curved in its whole length, and bent into a small hook at its point, was passed down into the trachea with its point to the right side. When passed down to the depth of seven inches the tube was encountered, and its contact was distinctly felt and appreciated by several of those present. Having ascertained with the end of his little finger that the end of the tube presented itself obliquely to the axis of the trachea, Dr. Buck introduced a long and slender dressing forceps bent edgewise at an obtuse angle, and with it seized and brought away the tube. The forceps was exhibited to the members of the Academy.

The wound was closed as after the previous operations, and a trachea tube replaced. A copious expectoration of viscid mucus followed the operation, but without any bloody discoloration. The subsequent progress was favorable, and at the end of three or four days patient was again up and about the ward.

In fourteen days from the operation the wound had heealed perfectly above and below the tube, and all inflammatory swelling of the surface had disappeared; the patient was quite free from cough and disturbance of respiration; his voice continued very much the same as before the first operation. Desirous of returning to his home, patient was discharged wearing the tube.

On the 28th day, the trachea tube was left out entirely. Exuberant granulations which had sprung up around the orifice of the opening through which the tube passed were pared away close to the skin, and the fresh cut surface freely touched with nitrate of silver. A compress spread with cerate was applied over the opening and secured in place by narrow strips of adhesive plaster. (The patient was present and examined by the members.)

Remarks.—The state of complete quietude following this extraordinary accident, and persisting, as it did, for one week afterward, may be explained by the fact that the tubular form of the foreign body caused very little or no obstruction to the respiration. Owing to its curved shape, both ends of it rested against the wall of the passage in which it was lodged and held it at rest. This condition of quietude, however, had reached its limit. The patient, on the day of the operation, just one week after the accident, began to experience some difficulty in inspiration, and the respira ory murmur had become more indistinct over the right lung. A longer delay of the operation would no doubt have developed increasing manifestations of obstruction.

Professor S. D. Gross, in his very thorough and able Treatise on Foreign Bodies in the Air-Passages, enumerates a great variety of substances which have got into the air-passages.

Among those of a vegetable nature were beans, grains of corn, seeds of different kinds, bits of fruits, nut-shells, ears of grass and rye, cockle-burs, et

cetera. Among those of an animal nature were bits of meat, bone, shell, claws, quills, teeth, human and animal, besides a variety of other substances. Buttons, pins, needles, beads, shot, coin, nails, and other metallic substances were also on the list. Among nearly one hundred different articles of which Prof. Gross gives examples, there is no instance of a tube lodging in the air-passages, as in the case herein related. So far as he can learn, the present case is the first of its kind. It shows a very serious defect in the construction of the hard rubber tube which has come into use within a few years, and unless the defect can be corrected so as to render such an accident impossible, the further use of the rubber tube should be discouraged.

The tube itself (which was passed around) measures two inches and five-eighths in length on its convex side, and two inches on its concave; its distal end is three-eighths of an inch in diameter, and its proximal end one-half an inch, outside measurement. Its convex side is perforated at its middle by a fenestrum one-half an inch in its longitudinal diameter.

The introduction of forceps and other instruments into the trachea and bronchi through an opening in the neck, for the removal of foreign bodies, has been successfully practised in numerous instances recorded by different authors. The introduction of the finger, however, into the trachea, for the purpose of ascertaining the situation of a foreign body, is a proceeding altogether new within the knowledge of the author. The facility of this operation in the present case, and the practical advantage of it in guiding to the prompt and easy removal of the foreign body, furnished a very suggestive practical lesson to all present on the occasion. His worthy colleague, Prof. H. B. Sands, to whom belongs the priority in digital exploration of the interior of the trachea, joins him in not only sanctioning, but recommending the practice as safe, and affording a sure guide to further proceedings for the removal of the body we are in search of.

The mode of operation in this case proved to be well adapted to the employment of digital exploration. The opening in the trachea must necessarily be very free, and a vertical incision should be made of at least one inch in length, commencing at the lower edge of the cricoid cartilage and dividing the rings of the trachea. To make this opening capable of the greatest degree of dilatation, a transverse incision should also be carried across its upper extremity, between the first tracheal ring and the cricoid cartilage, to the extent of half an inch on either side. A ligature passed through the opposite edges of the wound, and including the tissues immediately in contact with the trachea, but without perforating it, with the ends tied together so as to form a loop, affords the most efficient means of stretching the edges of the opening apart. The division of the isthmus of the thyroid body necessarily involved in this operation need not be dreaded.

The author, in his numerous operations for tracheotomy, has never had any special difficulty from hemorrhage from this part, nor has he ever taken the precaution to previously ligate the isthmus on either side of the median line and cut between the ligatures. Such a precaution might easily be taken and would be a complete security against hemorrhage. After previous digital exploration the author's forceps are best adapted to seize a foreign body in the trachea below or in the larynx above.

The speaker, in concluding, remarked that he had been fortunate in having access to a prize essay by Bertholle, written in 1865, in which 130 cases of foreign bodies were noted, including those mentioned by Prof. Gross.

In this essay there is no instance of a tube lodging in the trachea and bronchi. We learn from experience that operations show the best chances of success, and according to Bertholle nearly half of the cases not operated on died; expulsion followed by recovery and not operated, a little more than 1 in 2 recovered; of 45 operated, 33 recovered and 12 died—nearly 3 out of 4. Aaronsohn reached a similar result: of 68 operated, 50 recovered and 18 died—or 5 out of 7. The importance of auscultation in cases of foreign bodies is clearly exhibited in this instance.

Before sitting down, the larynx, trachea, and bronchi from the cadaver were presented, to show how the tube was lodged.

Prof. Alonzo Clark referred to a case occurring in the practice of Dr. Lindsay, of this city, where a lady, æt. 45 or 50, while holding a silver ten-cent piece in the mouth, suddenly lost it. Paroxysms of coughing followed. After it had remained for two years, Dr. L. wished the speaker to find by auscultation where it was located. He was informed that it was in the right bronchus, where it remained for three or four years. Eighteen months ago Dr. Lindsay brought this silver piece to him, which was as black as charcoal, and in three or four pieces. It had turned into the sulphuret of silver.

The subjoined case, originally under the observation of Prof. Jas. R. Wood, was alluded to: A gentleman came to him with cough of three or four years' standing, occasioned by the presence of a piece of chestnut-shell in the right bronchus. One year from that time he had pneumonia. Within six years from the attack of pneumonia a piece of the shell was coughed up, which had undergone a chemical change. The patient was told that he would wear out in one year. Dr. Clark also mentioned the case of a boy, who, in haying-time, took a head of timothy into his mouth, which was carried into the breathing-tube. His friends said that he had not swallowed it, but it was found one month after imbedded in the lungs.

Prof. Frank H. Hamilton referred to one of his cases which was reported by Prof. Gross, where a lad had swallowed a tin whistle. It was found in the right bronchus, but the patient was not operated upon. In two weeks from the time of swallowing it was coughed up. This author believes that the number of cases of foreign bodies expectorated are not as often recorded as the successful operations for their removal; consequently, we cannot rely altogether upon the published statistics. His success in the removal of foreign bodies without an operation has been remarkable. He sees no advantage in the use of a hard rubber tube after laryngo-tracheotomy.

Dr. Alfred Underhill had, six or seven years since, a case of phthisis occurring in a female who had swallowed six years previously a copper umbrella-tip, which was detected at the point where it lodged. While in a paroxysm of coughing the tip came up. The expectorations previously to that time were of a copperish-yellow hue, but afterwards the color of the discharge ceased.

He also referred to two other cases of foreign bodies which were relieved by the administration of emetics. In one case it was a pin, in the other a bean, which caused the trouble.

Dr. Buck stated that Dr. Jas. R. Wood once related a case of a child which was brought to his office in East Broadway by the mother, who said it had swallowed a thimble. It was quickly removed with the finger, which made quite a sensation among the numerous spectators.

Prof. E. R. Peaslee asserted that, in most cases, the

body was in the right bronchus, and the presumption was that it should be so, as the right side was the largest. In regard to detecting the precise point of the body, he coincides with Dr. Leaming. He narrated a case where a large sponge was said to have passed down the larynx, and he could hardly believe that so large a body could be swallowed, but on auscultation a surgical operation was attempted and the sponge brought away. It measured one inch in length, and one and a quarter inches in thickness. The patient died forty years afterwards. In this case the bleeding following the operation did not occasion a cough at all, but a cough had to be excited so that the blood could be brought away. The air-passages will bear a good deal of manipulation after operation.

Dr. A. J. Chadsey once relieved a patient who had swallowed a fish-bone, by promptly administering an emetic, with the head downward. Another case was reported by Dr. Chadsey, which came under the observation of Dr. Kittredge, of Mass., several years since, where a man had swallowed a bean, and the wife had recourse to the following novel method of relieving her husband. Some balls of butter were prepared, and the patient asking her what they were for, the reply was, that she should fire them at his posterior. This remark caused him to laugh immoderately, which brought up the foreign body.

On motion of Dr. Elisha Harris, Drs. H. D. Bulkley and E. H. Janes were added to the Committee on Vaccination, as they had had a good deal of experience on the subject.

On motion, the Academy adjourned to the third Thursday in September.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, June 22, 1870.

Dr. Joseph C. Hutchison, President, in the Chair.

The Committee on Microscopy reported the supposed epithelial cancer of the lip in a young man to be fibroplastic.

NECROSIS OF SUP. MAXILLARY.

Dr. Knapp presented a portion of the necrosed body of a superior maxillary bone removed by operation from a male patient, aged forty. The interest of the case consisted in the fact that the whole orbital plate of the superior maxilla was gone, and in its place the fistulous tract had so drawn itself under the eyeball as to form a complete cushion for it.

Dr. Hart exhibited an osseous tumor of the left cornu of the thyroid cartilage removed from the body of a Frenchman aged forty. The disease in its progress had completely dissected out the carotid artery. The specimen was by request referred to the Committee on Microscopy.

MALIGNANT DISEASE OF ŒSOPHAGUS.

Dr. Loomis presented an œsophagus taken from an Irish widow fifty years of age, who was admitted into Bellevue about the first of June. She stated at the time of her admission that she had always been a hard-working, temperate woman, and had been perfectly well until about six months before, when she began first to suffer from pain in her chest. She located the pain at a spot corresponding to the junction of ensiform cartilage and sternum. When first felt it seemed deep-seated, paroxysmal in character, and worse after eating. Very soon, in connection with pain, she noticed a difficulty in swallowing, the act being accompanied by a choking sensation. The difficulty did not seem to be in the food passing the pharynx, but it seemed to be lower down. She also noticed that within a very short time after the pain commenced she was unable to swallow solid food, or after she had swallowed it, it was very soon returned unchanged. She confined herself accordingly to fluids, and began as a consequence to lose flesh and strength very rapidly, so that at the time of her entrance she was unable to get out of bed or stand without assistance. Her skin had a pale, dingy hue, her countenance was anxious in its expression, and she had a much older appearance than her years indicated. She felt best when sitting up. When she lay down she suffered from pain, which was always aggravated when she attempted to swallow. She described this sensation as a soreness more than a lancinating pain. She would not attempt to swallow solid food; but when she would take milk, after a minute it would regurgitate, and although the act was continued during the regurgitation, she still seemed to get very little into her stomach. An œsophageal probang was introduced into her œsophagus, and it met with an obstruction at the lower bend of the tube; but, after considerable manipulation, was at last introduced into the stomach. She said that she swallowed better after the operation, and the operation was consequently repeated several times. About a week after her admission she vomited a considerable quantity of fluid. On the 19th of June she sank and died from exhaustion, the result of want of food.

On post-mortem examination the œsophagus was the organ principally diseased. It presented very nearly a normal appearance down to its lower third, where there was a growth springing out as it were upon the inner surface and surrounding the tube for about two inches. This new growth had considerable consistency at some points; at others it was very much softened. Close examination seemed to show that it sprang from the deep submucous cellular tissue, and that at its lower portion there was a small opening which communicated on one hand with the base of the lung, a portion of which latter had undergone induration; on the other hand it opened into the left bronchus. This growth commenced opposite the bifurcation of the bronchi. It did not involve the stomach, nor were there any other cancerous deposits in any particular organ of the body. There was some œdema of the lungs, and the tubules of the kidneys were granular.

The question was whether this woman's death was hastened by the probang. Another point:—This was a primary development, as almost all cancers of the œsophagus are. Again, this woman suffered very little from anything save the difficulty of getting food into her stomach.

CARDIAC DISEASE, ETC.

Dr. Jacobi exhibited a specimen removed from the body of a gentleman who died at the age of thirty-six years. About three and a half years ago he had been taken with a very severe endo-carditis, in the course of an attack of acute rheumatism. He suffered from the beginning with a very high fever, which, continuing for a long time, gave the impression of being the concurrent fever of miliary tuberculosis. Still, at a later period no symptoms of tuberculosis or other lasting pulmonary disease could be found. Dr. J. saw him about six months after his first attack, and had occasion to make the diagnosis of stenosis of the aortic orifice and incompetency of the mitral valve. He afterwards attended to his business, had in the mean time a little œdema of the feet, would be down now and then with severe pulmonary catarrh, and a few times with what had been taken to be attacks of localized pneu-

monia. A quarter of a year before his death his symptoms grew worse, and he died finally with the usual symptoms of cardiac disease, viz., œdema, dyspnœa, now and then intercurrent pulmonary œdema, and occasionally with localized pneumonia. Not a single one of the latter appeared to extend over more than one lobe at a time, and in every one resolution of the new-formed infiltration took place.

At the autopsy a large number of warty excrescences were spread over the endocardium. The semilunar valves were shrunken by the deposit. The mitral valve was in a similar condition. The right ventricle was thickened and dilated. The spleen was very much enlarged and showed infiltrations from the size of a pea to that of a hazelnut. All of them were of pyramidal shape, base outwards. There were some spots in which cheesy degeneration of these infiltrations had taken place, with probable exudative inflammation in the neighborhood. There were two large abscesses, of more than walnut size.

ECHINOCOCCUS OF LIVER—REMOVAL OF CYST BY OPERATION, ETC., ETC.

Dr. Jacobi also presented a specimen of more than usual interest, and gave the following history of the case to which it belonged:—

The specimen was removed from the body of an unmarried woman twenty-nine years of age, who died at the Mount Sinai Hospital, on the 15th of June. Her history for the past few years is incomplete; I have only a few notes of the same from the house physician. She was admitted in the summer of 1868, with the diagnosis of chronic gastric catarrh. At that time she suffered a great deal from indigestion; there was a good deal of bloating, with an absence of appetite. It was found that the right side of the body at the height of the seventh or eighth rib was two inches larger than the left. She remained in the hospital twenty days and was then discharged as cured; that is to say, she had regained her appetite, etc., although no mention is made of any change in the shape of her body. She remained away until December, 1868. This time she is marked down with pneumonia. She had been sick three or four days before her admission, and remained in the institution about nine days. She left with a little cough, but to all appearances was well. No mention is made of any differences of measurement of the two sides of her thorax. Was re-admitted October, 1869, with an exudation in the right pleural sac. She had complained for about two weeks of a good deal of pain in the right side. On examination there was dulness from the scapula downwards to the liver, or what was considered to be the liver. No respiratory sound was heard. She had the proper treatment for pleurisy, and appeared to be improved in the first days of November. She then had slight fever; also about the beginning of November she menstruated; again after menstruation, having more pain, a blister to the right side was applied. She took quinine and improved. In December, although she felt very much better, she still did not feel well. The iod. of potassium which she had taken before was omitted, but she was permitted to remain in the hospital.

It is noted that on December 30th, respiratory murmurs returned over part of the affected side. During January, February, and March, she was allowed to remain, and as usual with such chronic cases, no great attention was paid her.

My service commenced in April. On the 11th of that month I found the circumference of her chest to be thirty-four and a half inches, there being a difference of five and a half inches in favor of the right side. Inclined to think that the enlargement of the liver was due to leucocythæmia, I ordered her a few days afterwards to come to my office for the purpose of having her blood examined. She came on the sixteenth of April. I examined her blood, and counted about twenty white corpuscles to three hundred and fifty red ones, evidently a large increase over the normal proportion, but at the same time not enough to justify the diagnosis of leucocythæmia to such a degree as would coincide with the immense size of the liver. It should be stated that this examination was made two or three hours after her dinner, which in a measure accounted for the disproportion of lymph corpuscles. I examined her again five or six days afterwards, and at that time did not find more than five or six white corpuscles to the three hundred and fifty red. I then gave up the idea of leucocythæmia, and on the 29th of April I plunged in an exploring needle in order to satisfy myself as to the nature of the disease. A few days previously I thought I felt fluctuation a little to the right of the median line, and about an inch and a half below the margin of the ribs. This caused me to make up my mind to use the needle, and I was supported in my decision by the other members of the staff. At the time of the operation it appeared that there was not only one elastic spot in the situation described, but another one a little to the right of it. These did not seem to communicate. I brought away a few drops of a thin clear liquid, which was subjected to a microscopical examination without, however, the desired result of revealing what I was looking for, the hooks of the echinococcus. But as it contained a good deal of chloride of sodium, and as it not unfrequently happens that no hooks can be found, I made up my mind that I had to deal after all with an hydatid cyst, which, from the small escape of liquid contents, forced me to the conclusion that it was of a multilocular character.

After the exploration had been made she was left quiet for some time. A little peritonitis set in, and for the present I could not think of doing anything more. I hoped that there would be sufficient adhesion between the abdominal wall and the sac to finally justify the opening of the latter. The peritonitis disappeared so soon that I could not feel sure of the adhesion. After her general condition had improved, I determined to apply the Vienna paste, for the purpose of lighting up the desired amount of inflammation. Meanwhile I had measured the liver by percussion, and found anteriorly dulness above the fourth rib anteriorly and posteriorly; that the same tumor could be felt in the neighborhood of the umbilicus, in the right hypochondrium to the height of the umbilicus, and in the left a little above—thus the surface of the liver measuring from eight to eight and a half inches in a longitudinal direction. The Vienna paste was applied on the 21st of May. In order to have a sufficiently large opening into the sac, I applied it just over the region where I found the greatest amount of elasticity, over a space four and a half inches in width. A second application of the caustic was made on the 22d, a third on the 24th, after which peritonitis set in. There was a good deal of fever; the pulse went up, but still I went on. The peritonitis was just what I wanted. On the 27th there was a fourth application, on the 30th a fifth, and the 31st a sixth. On the 1st of June I found, after I had removed shreds of necrotic tissue, that I was outside of a thin layer that might be the thickened sac-wall itself. Still I did not feel justified in introducing the knife, and applied the caustic once more. On the afternoon of that day the sac burst, discharging an immense quantity of water, shreds of membrane, etc. The amount of liquid that was poured out was estimated to be at least half a

pail full—at all events, it was sufficient to inundate the woman, bed, and a large portion of the floor. On the 2d of June I found the opening an inch in size, and large enough to admit the finger. Inside the sac, the walls of which I could follow up for a short distance, I found a number of membranes that looked to me like floating hydatid. I dilated the opening to two and a half inches by means of the knife, and removed that day a number of shreds and membranes. I repeated the latter almost every day. Some particles would float in the liquid that I injected, or rather poured in, and were easily removed.

The walls of the sac were very stiff, so that they would not collapse, and I could from the first day inject a pint of liquid and over. The first injection consisted of from three to four grains of carbolic acid to the ounce of water. Sixteen to eighteen ounces were injected at a time. After a while I thought that with smaller injections I might do better and facilitate the contraction of the sac; thus a few ounces of liquid containing seven grains to the ounce were poured in. The first days she felt tolerably well, with the exception of a very severe pain in the region of the kidneys and along the line of the vertebral column. This I attributed to the stretching of the adhesions. A number of days after the sac had been opened she was taken with moderate fever, her temperature never, however, got beyond 102° until four or five days before death, when it arose to 103°.

On the 8th of June, just a week after the final operation, or rather after the bursting of the sac, some shreds were again removed which were floating in the liquid. On the 9th I succeeded in removing through the external opening this large sac entire. It consists of a large number of layers that can easily be separated from each other, and its walls are one-sixteenth of an inch thick. On its internal surface are small excrescences, which prove to be small echinococci, or rather scolices.

I present to you here all that is left of that immense liver, showing that the echinococcus sac has taken the natural place of the right lobe of the liver. But a very small portion of the right lobe is left intact. But there remains the immensely enlarged left lobe, enlarged evidently in consequence of physiological congestion, and the necessity of vicarious function resulting in new-formed liver substance.

At the autopsy adhesions were found everywhere, to the diaphragm, intestines, and kidneys, and in such manner as to prevent the contraction of the sac. The capacity after the rupture was a little more than a pint. The sac was removed by a blunt forceps. I proceeded in the way I did because I felt that I should have a better chance in saving her by the creation of adhesions than by puncturing at once. I have consulted Murchison, who collects a number of cases (none of the sacs as large as this) in which they have been punctured simply, and he has a number of recoveries; still I don't believe that it would be safe to puncture simply and then leave the case to itself. My operation is advised by Recamier, of Paris, I think. Dr. Simon introduces wire through the tumors, fastens them on the outside, and then waits for peritonitis, and after adhesion takes place, opens the sac with a knife. An operation similar to that was performed by the late Dr. Ed. Weber, of this city. It is reported that he made an incision horizontally down upon the liver, and waited eighteen days, then opened the sac (which contained two quarts), and injected iodine, and after the contraction had left fistulous openings, these in their turn were closed by nitrate of silver. This case is reported as having got well.

The Society then went into executive session.

Correspondence.

CHLORAL POISONING.

To the Editor of the Medical Record.

Sir—About 10.30 P.M., July 2, 1870, I was requested to see Mr. B., æt. 46, born in England. For years he has been addicted to drink. In the last two years he has acquired also a habit of using opium, which indulgence he had carried to such excess that tinct. opii ʒ ij. or McMunn's elixir ʒ iij. would fail to produce sleep. Bromide of potassium also failed to produce the desired effect. Three weeks prior to my call he had begun the use of "chloral" in doses of grs. xv. to xx., which made him sleep. He increased the dose (as he had heretofore done with other narcotics and sedatives) to ʒ j. On this occasion the ʒ ij. which had been ordered for him at 6 P.M. not having quieted him before the renewal of that dose at 10 P.M., he impatiently seized the bottle and drank ʒ iij., making a total of chloral hydrat. ʒ v. in four hours. Five minutes after he was observed to grow quiet, his eyelids drooping. After ten minutes his respiration became slow, labored, and stertorous. Five minutes later he fell from his chair. A pipe being in his mouth was removed with much difficulty, his teeth being firmly closed. Forty minutes after taking the last chloral I saw him. Respiration was then 48, shallow, and loudly stertorous. Pulse rapid, weak, and wavy; pupils contracted to size of pin's head, but extremities warm and oxygenation good, although he was completely and profoundly anæsthetized.

I applied mustard to præcordia and administered brandy and water. Deglutition was difficult, the act not beginning until he strangled and coughed. About 11 P.M. Dr. Gurdon Buck saw him and suggested an application of mustard to back of neck. Shortly after taking the brandy his pulse became more regular and could be counted, being 120. For half an hour no material change appeared in his condition. Before 12 o'clock respiration became deeper and less frequent. At 12.30 pupils dilated somewhat, and the loose flabby faucial muscles appeared slightly tense, indicated by a less degree of stertor. At 1 o'clock flexed and extended his right leg. In a few moments he vomited, immediately after which greater dilatation of pupils was observed, afterwards contracting again. He soon experienced very slight clonic spasms in his limbs, which were of short duration and at irregular intervals, lasting about twenty minutes. Administered brandy ʒ iss and water, until deglutition improved, then commenced with beef-tea and brandy. At 1.30 he opened his eyes wide for a moment, after which he sighed when aroused by the act of deglutition. At 2 A.M. retired, to be called if any change occurred. At 5 A.M. was called, found patient quite pale, pulse weak, 108, respiration 26. Sensibility to touch of conjunctiva. He turned upon his right side and remained until 7½ o'clock, when he looked much better, opened his eyes and talked, but again fell asleep. Continued beef-tea and brandy. Between 8 and 9 o'clock he walked upstairs with some assistance. At 12 M. he was comfortable, talking rationally, but still inclined to sleep. At 8 P.M. still quiet, eating and sleeping.

R. J. McKay, M.D.

47 West 26th Street, July 10, 1870.

THE MASSACHUSETTS MEDICAL SOCIETY AND THE QUACKS.

To the Editor of the Medical Record.

Sir:—That the Massachusetts Medical Society's

"statutes provide for the admission of irregulars into its body," as intimated in a recent number of the RECORD, is a mistake. On the contrary, one of its by-laws explicitly says: "No person shall hereafter be admitted a member of the society who professes to cure diseases by spiritualism, homœopathy, or Thompsonianism."

There are, however, more or less homœopathists in the society who, notwithstanding the permission allowed them to retire, persistently maintain their connection in consequence of the *éclat* which the position furnishes them. Some have crept in clandestinely, more have become irregular after having joined the society; and it has generally been considered by us best to let them quietly alone—*to ignore them as practitioners and as members*, rather than give them the benefit of the notoriety and the sympathy in the community which would be consequent on a formal trial and expulsion. We use special care to keep out new interlopers of exceptionable cast, and while we deal out to those already in, the fullest measure of neglect and contempt, we wait patiently for them to die off, as the safest and easiest way to be rid of them.

A MEMBER OF MASS. MED. SOC.

July 28, 1870.

Obituary.

PROFESSOR ALBRECHT VON GRAEFE.

ONE of the greatest men in our profession is no more. A cable despatch tells us that the Professor of Ophthalmology in Berlin, *Albrecht von Graefe*, is dead. This sad event is not wholly unexpected, since for years the numerous friends of this great man have been very solicitous in regard to the state of his health, and the vacations demanded by his exhausted frame have been long and at short intervals. We are not in the possession of exact data as to von Graefe's age, but he was probably about forty-five years old. His father was a distinguished surgeon and ophthalmologist, and also, we believe, a Professor in the Berlin University. After von Graefe the son had finished his medical studies, he determined to devote himself to the study and practice of ophthalmology, and for that purpose studied in Paris and Vienna. The latter-named place was then pre-eminently the centre of ophthalmic science. It had received more encouragement at this university, where the professor of this department enjoyed the same rank with the teachers of Anatomy, Practice of Medicine, etc., than in any other school. Graefe was here a pupil of *von Jaeger*, the great ophthalmoscopist. Having spent some years in special study, he returned to Berlin, where he established with his own means an hospital for the treatment of diseases of the eye. In this hospital the greatest triumphs of ophthalmology have been achieved. Here von Graefe first performed the operation of iridectomy for glaucoma; here *Liebreich* made those representations of the ophthalmoscopic image of the *fundus oculi*, which have contributed much to our knowledge of the diseases of the interior of the eye; here *Schweigger* made those wonderful sections of the cornea, choroid, and retina; and more recently, in this hospital, von Graefe, who had already extracted more than 6,000 senile cataracts, introduced a new method of operation—the peripheric linear—which has well-nigh taken the place of all other operations for hard cataract. In fact this *Augen-Klinik* became the centre of modern ophthalmology, to which all other schools, however celebrated, were but the radii.

Graefe, in conjunction with Professor Arlt, of Vienna, and Professor Donders, of Utrecht, established the *Archiv für Ophthalmologie*, a semi-annual journal, which has reached its fifteenth volume, and one which is always mentioned first in any enumeration of ophthalmic literature. Probably one-third of all which has appeared in this journal was from the pen of Graefe himself, and he who possesses it has a complete library of ophthalmology.

Graefe's labors as a teacher, where he instructed large classes of graduates in medicine from his own country, from Russia, France, Spain, America, in fact from all parts of the world, were very great. Nearly every day during the winter sessions he lectured for two hours on illustrative cases, besides performing numerous operations in the presence of sections of the class; for he recognized the fact that it was possible for but few to see an eye operation at any one time, and he admitted only that number to the bedside. At his clinic he was always gentle and courteous to the poor, who came to him in crowds; and when in some hopeless case his art could avail nothing, he would often slip a gold piece into the hand of the poor unfortunate, as if resolved to do something to alleviate the sad condition.

His private patients were also treated in his large hospital, where he had rooms fitted up in accordance with the habits of life. He was also an attending surgeon to the Charity Hospital, where he had some two or three wards.

Although Berlin is a city of some 700,000 people, and there were men in the profession able in many respects to compete with him, he had no competitor in the true sense of the word. Any chance street-passer, if asked who was the greatest oculist in Berlin, would have unhesitatingly answered *Graefe*. He had numerous assistants in his clinic and hospital—usually no less than five—but none of them were ever in any sense his rivals. If *Graefe* had a weakness, it was that he made his school so much a part of himself, that now that he is gone it will die also.

Graefe established an annual conference of ophthalmologists at Heidelberg, which has contributed much, in the papers read, and the discussions incident to them, to the advancement of a science which is now far ahead of many departments of the general field.

From his clinic has gone out the most of the teachers of ophthalmology in the known world; to sketch his life is to give the history of modern ophthalmology.

It is hard to speak of him without exaggeration; but the thousands who were under his care, his students scattered over the whole earth, will sustain the statement that in losing Graefe we have lost to medical science what Homer and Shakspeare were to poetry, Aristotle and Newton to science, Alexander and Napoleon to war; but, like them, he has left an immortal memory.

In person he was tall, with a bright blue eye; his hair was dark, of late sprinkled with gray. He was a nervous lecturer, speaking rapidly, but clothing his thoughts in classical German, and with such vehemence as to occasionally gasp for breath. As an operator his large experience, probably greater than that of any living man, made him excel; but he laid greater stress on careful observation after an operation, than any surgeon whom we have ever followed. He watched his cases with an assiduity and skill which often brought a good result from a seemingly hopeless one.

We have no advices of the disease of which Graefe died, but it was probably an affection of the chest, from which he frequently suffered.

Medical Items and News.

Prof. Lister has been appointed Surgeon in Ordinary to the Queen in Scotland.

Sir W. Fergusson has been elected President of the Royal College of Surgeons, London.

Surgeons for the Prussian Army.— American surgeons with a knowledge of German are invited to join the Prussian Army.

Glyceratus—A Substitute for Simple Syrup.—H. Treverton Bond, of Wheeling, West Va. (*Am. Journal of Pharmacy*), suggests the following preparation, which he has christened "Glyceratus," as an article that in many prescriptions can be used with advantage in place of simple syrup: Take of glycerin, one pint; water, two pints; mix them.

The objections to simple syrup are too well known to need mention, while the great solvent power of glycerine renders it far superior in many instances. This preparation undergoes no change, and can be readily made.

Balata.—For some years past an article has been met with in commerce under the name of balata, which has properties intermediate between caoutchouc and gutta-percha, and is used for similar purposes.

Balata is prepared from the milky juice of the bully tree, *Sapota Muelleri Sapotaceæ*, which is indigenous to Guiana, the product being exported to Europe, mainly from Berbice. It contains 88·49 carbon and 11·37 hydrogen. In the dried milky juice of the bully tree, Sperlich found 81·31 carbon and 10·17 hydrogen; the balance is ascribed to oxygen.—*Am. Journal of Pharmacy.*

A Case of Poisoning from Swallowing Percussion-caps.—Dr. J. C. Whitehill, St. Louis, Mo., editor of the *Medical Archives*, reports a unique case of poisoning in a child of sixteen months, by swallowing *thirty-two* percussion-caps, which was partially relieved by administering an emetic of ipecacuanha and sulphate of zinc. The oil of sweet almonds was given freely to allay irritation, which it seemed promptly to do, and to protect the gastric walls, followed with a large dose of castor oil. In the course of a few hours the oil acted freely, and during the following day the child voided, per anum, twenty-three caps, making, with the nine previously thrown up, thirty-two in all, that he had swallowed. In this case, the effect of the oil of sweet almonds was prompt and satisfactory.

A Case of Dislocation of the Humerus from Sneezing.—A novel case of this character is published by O. H. Garritson, M.D., Macomb, Ill. (the *Medical Archives*). The patient, æt. 42, a carpenter by trade, while combing his hair, preparing for breakfast, suddenly sneezed, and dislocated the head of the humerus into the axilla. This was easily reduced, and the after-treatment consisted simply in supporting the arm in a sling for a few days. The rationale of the dislocation is not certainly known by Dr. G., but the reader may judge for himself. The patient says he was combing his hair with the right hand, and was holding his left arm nearly on a line with the coracoid process of the scapula. In the act of sneezing we naturally throw the head forward, and the arm at the time being held in the position he had his, the muscles being relaxed, save sufficient to retain the position, through the involuntary, sudden contraction of the deltoid, brachialis anticus, and biceps muscles, the elbow will raise, and the head of the humerus be correspondingly or proportionately depressed. This, he believes, must have been the cause of the dislocation.

Childless Women in New York State.—According to Dr. S las Loomis, Washington, D. C. (*National Med. Journal*), twenty-four per cent. of the women of this State are childless, and nearly twenty per cent. are incompetent after bearing one child.

Abernethy and a Medical Student.—The following scene between Abernethy and a medical student is worth noting, showing the audacity of the latter:—

"What would you do," bluntly inquired the surgeon, "if a man was brought to you with a broken leg?"

"Set it, sir," was the reply.

"Good—very good—you're a very pleasant, witty young man; and doubtless you can tell me what muscles of my body I should set in motion if I kicked you, as you deserve to be kicked, for your impertinence?"

"You would set in motion," responded the youth, with perfect coolness, "the flexors and extensors of my right arm; for I should immediately knock you down."

A Remedy for the Waste of Vitality of American Women.—The following indications to remedy the reckless waste of vitality in the female are laid down by Silas L. Loomis, M.D., Prof. of Chemistry in the Howard University:—

A child should not enter a school-room before 8 years of age for the purpose of study.

From 8 to 12 no studies involving close reasoning should be allowed. The hands, feet, eyes, ears, and body generally should have had careful instruction.

From 12 to 14, health should be the first object. All else subservient. Health at all times should be a prime object, but at this period more than ordinary attention is demanded.

At 15, education should begin in earnest, to be completed *generally* at twenty, or *professionally* at twenty-five.—*National Med. Journal.*

Oxygen Gas Introduced in the Paris Streets.—The new Préfect of the Seine has authorized the Tessie du Motay Company to lay their underground communications in the city of Paris, for illuminating with oxygen gas.

Meat Preserved Nineteen Years.—Dr. Stein (*Jour. of Applied Chemistry*) while lecturing recently at Dresden on the preservation of meat and food, produced a tin cannister of good size, containing butcher's meat preserved by Appert's method, and prepared by himself in 1851. On opening the cannister, which had been filled nineteen years previously, the meat was found to be as fresh and full of flavor as when it was first placed in the cannister.

A Donation to the Hospital at Hartford, Conn.—The late Chester Adams, of Hartford, Conn., bequeathed the sum of $40,000 to the Hartford Hospital.

Intoxicating Liquors Drank in the United States.—The quantity of fermented and distilled liquors used in the United States in one year, would fill a canal four feet deep, fourteen feet wide, and 120 miles in length.

The Origin of Rhinoscopy.—Bozzini, in his work *Der Lichtleiter*, published at Weimar, in 1807, was the first to describe a "certain simple apparatus" for the examination of the "internal cavities and spaces in the living animal body," including therein the parts situated "behind the hanging palate."

Prof. James S. Cabell.—This distinguished medical professor in the University of Virginia, is the resident physician at the Hot Springs in Bath County, Virginia.

Blisters Abandoned.—Dr. Peter, of Paris, has abandoned the use of blisters for counter-irritation, and uses the tincture of iodine in preference.

Bread and Milk Diet in the Carcinomatous Diathesis.—Prof. Paul F. Eve, M.D., Nashville, Tenn., has never known a case of cancer not benefited by this diet, first suggested by Dr. Nathan Smith, of New Haven, Ct., and afterwards demonstrated by Dr. Twitchell, of Keene, N. H., in his own person, when seventy years old.

Vomiting of Pregnancy.—Carl Both, M.D., of Boston, Mass. (*Jour. of the Gynæcological Society*), knows of nothing to compare with raw meat in vomiting of pregnancy, the meat being chopped fine and slightly salted. It should be given in very small doses at first, and then gradually increased. For drink he prescribes Seltzer water, or the Star water of Saratoga.

Digitalis in Uterine Hemorrhage.—Dr. W. Howship Dickinson, one of the physicians to St. George's Hospital, London, first directed the attention of the profession to digitalis in connection with uterine hæmorrhage, in 1854. His statements were fully confirmed by other observers, including Barclay, Trousseau, and Decaisne.

Renal Origin of Dropsy.—In 1761 Morgagni pointed out the renal origin of dropsy, and gave the first authentic intimation of convulsions as a sequence of kidney disease. A few years later, 1770, we have the first undoubted discovery of albumen in the urine, by Cotumnius. In 1797, Cruikshank showed the relation between coagulable urine and dropsy.

The Kidney.—The tubes of the cortical portion of each kidney have been estimated at 2,000,000 in number, thus furnishing, according to Vierodt, a secreting surface of 44 square feet.

A Heavy Liver.—Murchison, in his "Diseases of the Liver," has recorded a waxy liver weighing 180 ounces.

The Amyloid Deposit in the Spleen.—Hodgkin, in 1832, without expressing any opinion as to its nature, was the first to recognize the amyloid deposit in the spleen, and especially that form known as sago-spleen.

The Waxy Change in the Kidney.—The discovery that the transparent or waxy change of this organ begins in the minute arteries and capillaries, was made by Dr. Kirk in 1853.

Dr. Dieulafoy's "Aspirateur Sousautane."—Under this name an instrument has been suggested, by means of which effusions into synovial or serous membranes, collections of pus or blood, and even hydatid sacs, may be safely evacuated It consists of an instrument resembling a subcutaneous injection or syringe, with a terminal and a lateral tube, fitted with stop-cocks, to which a capillary trocar can be fitted, so that after withdrawal of the morbid liquid an injection may be practised without removing either the trocar or the pump.—*Med. Times and Gazette.*

Hydrated Sesquioxide of Chromium.—C. J. Rademaker, M.D. (*Am. Journal of Pharmacy*), states this preparation has been used with great success in Louisville, Ky., by Dr. Wilson and others, in the treatment of cholera infantum.

The Motion of the Wings of Birds.—The remarkable discovery made by Dr. Pettigrew in 1867, that the wings of all animals are twisted upon themselves, and that they twist and untwist during their action, has quite recently been confirmed by Professor Marey, of the College of France. This gentleman has experimentally demonstrated the character of the air-path of the vibrating wing, and has shown, as Dr Pettigrew had already proved, that the wing during its oscillations describes a figure of 8 track, which, in horizontal motion, becomes converted into a wave-track. Dr. Pettigrew's discovery and Professor Marey's demonstration are of great interest to aëronauts.—*British Medical.*

The Mode of Termination of Motor-Nerves in Organic Muscle.—M. Hénocque has been making a series of investigations on this subject, the result of which he communicates to M. Brown Séquard's *Archives de Physiologie* for May, and has arrived at the following conclusions:—1. The distribution of the nerves in smooth muscle is not only identical in man and other vertebrate animals in which it has been observed, but is essentially similar in all the organs containing smooth muscle. 2. Before terminating in the smooth muscles, the nerves form three distinct plexuses or networks—(*a*) a chief or fundamental plexus, containing numerous ganglia, and situated *outside* the smooth muscle; (*b*) an intermediate plexus; and (*c*) an intramuscular plexus, situated *within* the fasciculi of smooth fibres. 3. The terminal fibrils are everywhere identical; they divide and subdivide dichotomously, or anastomose, and terminate by a slight swelling or knob, or in a punctiform manner. The terminal swelling appears to occupy different parts of the smooth muscular fibre, but most frequently to be in the neighborhood of the nucleus, or at the surface of the fibres, or, lastly, between them. The methods of investigation adopted by M. Hénocque have been very numerous, including the maceration of the preparations, obtained in as fresh a condition as possible, in aqueous humor, artificial serum, pyroligneous acid, chromic acid, chloride of gold and potassium, especially the latter, in a strength of 1-200th.

Purulent Infection—Cure by Sulphate of Quinia.—A man, aged twenty-six, was admitted to hospital for a cold abscess of the thigh, having its point of departure in the femur. As the abscess threatened to open spontaneously, M. Ripoll, says the *Gazette Médicale de Paris*, made a slight incision, which gave exit to pus. Seven days afterwards the patient had two violent rigors, followed by all the symptoms of blood-poisoning. An emetic of ipecacuanha was administered, and, subsequently, tonics and seven-and-half grains of sulphate of quinia. During the following days the quinine and other tonics were continued, and that for more than three weeks. Improvement was slow, but progressive, and M. Ripoll, with reason, attributes it to the quinine and tonics.

Liniment in Fissure of the Anus.—Dissolve one part of tannic acid in sixteen parts of glycerine. A piece of lint dipped in this solution should be introduced night and morning into the rectum. The bowels should be kept open. By means of this preparation M. Van Holsbek, its originator, has succeeded in healing anal fissures which have resisted the division of the sphincter.—*L'Union Médicale.*

Lead Poisoning.—M. Didierjean, of Paris, has found an efficacious preservative of saturnine diseases. He has experimented within the last two years with the workmen employed in the lead works. This preservative is milk, of which every workman brings with him

to the manufactory 1,000 grammes every day, and for eighteen months no workman has been ill with lead poisoning.

MORPHIA COLLODION.—Mix together one part of hydrochlorate of morphia and thirty parts of flexible collodion. The collodion is applied by means of a camel's-hair brush to the seat of neuralgic pains. Should these occur periodically, larger or smaller doses of the sulphate or the valerianate of quinine are to be given besides.—*L'Union Médicale.*

INFLUENCE OF VACCINATION ON SMALL-POX.—M. Farivel presented to the Academy of Medicine of Paris, at its last sitting, the following conclusive statistics:—From the 18th of February to the 31st of May 275 cases were treated in the Hôtel Dieu. Of these 275, forty died—1 in 7, or 14·55 per cent.—185 were cured, 50 remained under treatment. Of the 275, 28 had never been vaccinated, of whom 21 died—75 per cent. 247 had been vaccinated in childhood, of whom 19 died—7·69 per cent. Of the 247 who had been vaccinated, 12 had been re-vaccinated within the last three years—all were cured. Three were re-vaccinated (two of them successfully) during the period of incubation—all were cured. Thus not one of the re-vaccinated cases died, and it is remarkable that the three cases re-vaccinated during incubation were the only cases which took the variola out of 1,017 vaccinations performed at the Hôtel Dieu since the 1st of January.—*Med. Press and Circular.*

THE CHOLERA EPIDEMIC OF 1866 IN SWEDEN.—From the "Official Report of the Swedish College of Health on the Sanitary State of 1866," translated for the *Med. Times and Gazette* by J. W. Moore, M.B., we extract the following: There were 9,056 cases of cholera, and 4,389 deaths. This gives a mortality of 48.5 per cent. Of cholerine, 3,743 cases, and deaths 114. The disease was at its acme in virulence and frequency during the month of August, and after November only a few isolated cases occurred. Of 9,131 cases and 3,178 deaths—6 cases and 4 deaths belong to the month of June, 1,291 cases and 483 deaths to July, 3,366 cases and 943 deaths to August, 3,189 cases and 1,200 deaths to September, 1,160 cases and 508 deaths to October, 106 cases and 30 deaths to November, and 13 cases and 1 death to December. Of 4,096 cases and 1,405 deaths where the sex is reported, 2,151 cases and 729 deaths occurred in men; while 1,945 cases and 676 deaths occurred in women. Of 4,138 cases and 1,377 deaths, 675 cases and 290 deaths were those of children under 10 years; 278 cases and 82 deaths between 11 and 20 years; 1,093 cases and 295 deaths between 21 and 30 years; 905 cases and 259 deaths between 31 and 40 years; 642 cases and 209 deaths between 41 and 50 years; 380 cases and 149 deaths between 51 and 60 years; and 165 cases and 93 deaths over 60 years.

THE MONKEY SAID TO BE STRYCHNIA-PROOF.—A writer in the *Indian Medical Journal* states that the monkey is proof against strychnine.

FEMALE MEDICAL STUDENTS OF RUSSIA.—The Russian Government has decided to admit women into the Medical University of St. Petersburg, after passing an examination. They will be taught separately from the male students, and the whole course of study is limited to a period of four years. A diploma as midwife, which confers the right to practise, is to be given to those who go through all the prescribed examinations.

TRANSFIXION OF THE CHEST BY A LANCE.—There is now a patient at the Royal Victoria Hospital, Netley, laboring under aortic disease, who has recently recovered from the following remarkable lance-wound. He is a soldier of the 5th Royal Irish Lancers, and on the 1st of April, 1869, at Lucknow, was mounting his horse, when the animal reared on his hind legs. The butt of the lance was thrown forward and touched the ground, while the point of the weapon, unobserved by the man, was brought opposite to the lower part of the right side of his chest. Under these circumstances, the horse plunged forward, and the lance passed through the chest. The point entered over the cartilage of the seventh rib, and came out, together with twenty-two inches of the shaft, through the fossa infraspinata of the scapula, one inch and a quarter from its vertebral margin, and an inch and a half below the spine of the bone. No sooner had this occurred than the horse bolted, and it was not until he had gone about 120 yards that the man, grasping the lance with his right hand to take the drag off the chest, and reining up the animal with his left hand, was able to bring him to a standstill. As soon as the horse stopped, the man threw himself off, and in the act of falling to the ground the lance became partially broken or split up at the part which was close to the front wall of the chest. This added to the difficulty of extraction. The lower heavy part of the lance was first sawn off, and then about twenty inches of the part protruded beyond the scapula; the part within the chest was subsequently withdrawn by the aid of strong pincers. There was not much hemorrhage, and the man made an excellent recovery. The right side of the chest expands well, and, with the exception of loss of respiratory murmur and increased resonance over a limited space about the wound of entrance, the chest-sounds on this side are normal. The heart-disease was first noticed while he was under treatment for the wound just described. The length of the lance used by the 5th Lancers is nine feet three inches, and its weight is four pounds and a half.—*British Medical.*

THE PLASTER-OF-PARIS DRESSING.—Dr. James L. Little, of New York City, was the first—*Am. Med. Times*, Dec. 7, 1861—to recommend the plaster-of-Paris as an application in cases of club-foot "after tenotomy has been performed."

THE DISCOVERY OF THE CONVERSION OF STARCH INTO SUGAR.—In the year 1811, Kirchoff, a celebrated German chemist, discovered that it was possible to convert starch, by means of sulphuric acid, into sugar.

KIRSCHENWASSER.—This substance is obtained by the distillation of bruised cherries, and besides frequently containing prussic acid derived from the cherry stones, is a highly intoxicating liquor.

New Publications.

BOOKS RECEIVED.

A GUIDE TO THE EXAMINATION OF THE URINE FOR THE PRACTITIONER AND STUDENT. By J. WICKHAM LEGG, M.D., Member of the Royal College of Surgeons. 2d Ed. Philadelphia: Lindsay & Blakiston, 1870.

THE PRACTICE OF MEDICINE. By THOMAS HAWKES TANNER, M.D., Member of the Royal College of Physicians. Fifth American, from sixth London Edition. Enlarged and thoroughly revised. Philadelphia: Lindsay & Blakiston, 1870.

ERRATUM.—In Report of Ophthalmological Society, p. 260, first column, last line, for "plane mirror" read *non-reflecting one*. The passage will then read, "placed in front of a reflecting surface and also in front of a non-reflecting one."

Original Lectures.

ANTIPHLOGISTIC TREATMENT IN DISEASES OF CHILDREN:

REMARKS BEFORE THE NEW YORK MEDICAL JOURNAL ASSOCIATION, APRIL 15 AND 22, AND MAY 27, 1870.

BY A. JACOBI, M.D.,

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LECTURE II.

[Phonographically reported for the RECORD.]

COLD.

WHEN Ziemssen's book upon the application of cold appeared, some years ago, I began to use his plan of treatment, and I have followed it ever since. He places the patient in a bath, at first tepid, and then gradually cooled down until the desired temperature is reached. In this manner we may diminish the temperature in typhoid fever by as much as six degrees. Should it rapidly rise again, the bath must be repeated, and this as frequently as necessary to prevent its exceeding, say 103° or 104° F. I found a poor boy in Cherry street, burning with typhoid fever, at a temperature of 107°. I had him at once plunged into a cold bath for five or six minutes, and ordered this done every two hours so long as the temperature should rise suddenly after each bath. He got eight or ten of these plunges every day; the temperature fell to 98°, and never rose to its former height, and he recovered. I am confident that he could not have lived except for this reduction of temperature. In the hundreds of cases of typhus and typhoid where the treatment by cold has been tried, the mortality has been far less than under any other plan. This succeeds where everything else has failed.

In scarlet fever cold applications may be almost indispensable. In this fever the temperature will now and then rise to 106°, 107°, 108°, and this excessive heat alone prove the fatal element. Now I do not know any remedy that will reduce such a temperature and keep the patient alive except cold water—not to speak of cold air. Only this week I have seen such a case, where the thermometer in the rectum showed 108°. Every other means had been tried without effect. The child was placed in a warm bath, and cold water added till the bath stood at 64° and 60°. He was kept in the bath for two hours in the first twenty-four. To-day his temperature has not risen above 102°, and I consider him out of danger. I am sure that without the cold-water treatment he would have been lost. Of course there are many cases of scarlet fever in which the brain symptoms are so prominent that local cold applications are used by every one. But I am now alluding to the general cold-water treatment for the reduction of the general temperature of the blood.

In other eruptive fevers—in variola, for example—the same treatment would be good, though in the disease just named it looks a little strange to us, because we are not used to the practice. In the early part of this century a Hungarian writer alludes to the fact that, 'in the Transylvanian portions of the Austrian Empire, it is a common practice to place the variolous patient in a cold bath to reduce the fever; and he adds that the cases do as well under this treatment as under any other.

I would not give the impression that I think cold water a panacea or a remedy suitable for every age and condition. It may do much harm. If, for instance, there is one danger to the new-born infant greater than any other, it is that from the application of cold. I do not believe a baby should have a really cold bath until it has developed the faculty of locomotion, and the reactive power that comes with it. But the very shock that cold gives the system—the greatest, probably, that we can produce, except by the faradaic current—which makes it so dangerous to the young infant, renders it also invaluable in certain emergencies, as, for example, in asphyxia.

Cold applications have been recommended in the cephalæmatoma of the new-born, that is, hæmorrhage between the bone and the pericranium. Now it is a fact that this will get well if left to itself. We need not fear its spreading, for it will not extend beyond a suture. It is a fact, too, that the infant cannot bear the cold application, for a long period, without danger of collapse; it should, therefore, be used with caution. So, also, in the erysipelas of the very young cold applications may prove dangerous. Even in hyperæmia of the brain and its meninges, where cold is so frequently employed, I think it is possible to overdo the thing. Many of these cases are the result of changes in tissue, such as fatty degeneration, etc. In simple insolation cold is unquestionably of value from the shock it gives. It does good where we can see the shock produced; where we cannot, there is no use in continuing it. In several diseases of the nervous system—chorea minor, for instance—cold water has been used with advantage.

We must not forget that warm applications will also act antiphlogistically. It has been proved, by direct physiological experiments, that heat applied externally will reduce the temperature of the internal organs.

In the coryza of children I have used cold water, but not in the syphilitic form. I have learned from Dr. Peaslee to add common salt to the water in the treatment of chronic catarrh.

A large number of cases of ophthalmia in the new-born will get well under ice applications alone—a cloth taken directly from a lump of ice and placed on the eyes every half minute, and this continued not for hours but for days. I have seen very many cases of diphtheritic ophthalmia—many where the eye was destroyed—and the only cases which did well were the ones in which ice was used. Furthermore, I would not consent to be without ice in diphtheria or croup; and for many years my local treatment of these two diseases has consisted almost exclusively in its use, both externally and internally, especially the latter, where there is much pharyngeal affection.

If there is anything which I should rely upon in pneumonia, especially lobar pneumonia, where the fever is very high, it is cold-water treatment. If the temperature reaches 106°, 107°, pack the patient every hour or two. Under this cases have done well that I had almost despaired of. In most instances, however, cold local applications, changed every few minutes, will suffice. Not only in lobar pneumonia, but also in many cases of bronchitis and catarrhal pneumonia, may cold be relied upon.

In acute heart diseases, with the consecutive præcordial pain, cold applications over the region of the heart, and reaching down to that of the stomach, will almost always do good. In synovitis, and especially rheumatic synovitis, cold will do good in nearly eve y case, and I see no contra-indication to its use.

I need not add that local inflammation within reach indicates the application of cold; thus local phlegmon from any cause, inflammation of glands, peritonitis, etc. I should, however, try your patience too much by enu-

merating all the forms of disease in which this remedy, because it does great service, is indispensable. It will be our duty to overcome whatever there is left of prejudice in the minds of the public against it. The time has arrived already when no objection is raised any more to allowing windows to be opened in a sick-room. It will, I hope, be not long before the claims of circulation will be acknowledged like those of respiration.

ACIDS.

Among antiphlogistics, the acids are frequently mentioned; and it is certain that, besides their property of quenching thirst, some of them have the effect of reducing the pulse and the temperature. It appears that the organic acids act better than the mineral acids; indeed, these latter seem sometimes to increase the temperature somewhat, while the former will both render the heart's action slower, and reduce the temperature to a certain extent; hence they are preferably indicated in inflammatory diseases.

There is one point not to be forgotten in the use of acids of either kind, that, if too long persisted in, they will deteriorate the quality of the blood by disintegrating the red corpuscles. Thus, when given in typhoid fever, the acids act very favorably in the beginning, but they appear to protract convalescence, from their effect upon the blood.

SALTS.

A few words concerning the exhibition of salts in inflammatory diseases. There is no established rule with regard to their effect upon the heart's action; nor is there any theory of their action upon this or that nerve; and there are but few established facts upon which to build a theory. The salts of potassa will lower pulse and temperature, and their effect is not produced through the pneumogastric nerve. So with the tartrate of potassa and antimony, it appears to act, not upon the pneumogastric nerve, but upon the heart directly, perhaps by influencing its ganglia.

If a salt be administered in concentrated solution, this will act by osmosis upon the capillaries of the intestinal tract, and deprive the blood of a large amount of serum, including, of course, albumen. Thus salts will never be given for any length of time in a disease without impairing the constitution of the blood, and rendering convalescence slower. We must therefore avoid not only strong salts, but even the mild salina, as antiphlogistics, though we may use them as purgatives. But for any speedy derivative effect we require stronger purgatives than these, and should rely upon elaterium or croton oil.

COUNTER-IRRITANTS.

Another mode of treatment very frequently resorted to is that by cutaneous irritation, which may act in two different ways—either directly upon the nervous system, or upon the circulation. It has been proved beyond a doubt that strong irritation of the cutaneous nerves, or of others, will produce first a brief period of general irritation, and afterwards a reduction of temperature and pulse. On the other hand, feeble, though long-continued, irritation of the nerves produces only the general irritation, and not the reduction of pulse and temperature characteristic of the more powerful irritants. Thus it appears that when the electric brush is applied to the skin over a large surface, both pulse and temperature will come down almost immediately. I have myself been present when Prof. Heidenhayn related his experiments showing the same effect, in dogs, from irritation of the crural nerve.

Epispastics.—The question comes up, whether those irritants we generally resort to will have any such powerful effect as this of the electric brush; whether we can expect the same speedy result from epispastics, for instance. I think not. Not only will epispastics give no such immediate and powerful depressing action as will the electric brush, but we expect from them more of the protracted general irritation than we get from this. Indeed, I have found epispastics, in the cases, and at the periods, of inflammatory disease where they are usually applied, worse than useless. In the first stage of pneumonia, for example, children are very restless, and counter-irritation to the skin will only render them more so, and still further prevent sleep; they will cry themselves into more fever and more violent pulmonary action, and, so, much harm may be done. Finding this my almost uniform experience, and moreover seeing no great benefit to come from epispastics in the first stage of pneumonia or other inflammatory diseases, I long ago gave them up.

But there is a stage when epispastics may be indicated—when, for instance, hepatization has become established, absorption is not taking place readily, and we have reason to fear suppuration. In such a case I think an epispastic may do good, simply as an irritant—to light up a new focus of irritation, give a fresh start to the circulation, and so, as it were, set the ball a-rolling. By the freeing of the circulation the first step is taken toward absorption.

Here I may speak of tincture of iodine, mustard plasters, mustard baths, purgatives, diaphoretics, diuretics. For, in my opinion, it is the counter-irritant effect which we seek even from an epispastic when we employ it at all.

Tincture of iodine I do not use to the extent which I have often seen in other hands. I have seen it applied over every inflammatory swelling of the glands, even over the inflamed vertebral column, and over chronic peritonitis, chronic pleurisy, etc. I confess that I do not use it in most of these cases, though I have often done so in articular inflammations, and now and then in acute inflammation of a gland. I think that in all these cases it acts as a local irritant, by stimulating the surface, dilating the superficial blood-vessels, and, may be, also by irritation of the cutaneous nerves. For I believe that more effects in medicine are due to the cutaneous nerves than we commonly attribute to them. For instance, we recommend bathing in mineral waters—in chalybeate, carbonic-acid, or salt, waters—and we see its good effects, though we know that the epidermis is impermeable to liquid, and requires a good deal of preparation to render it permeable. The good effects we see from such baths must be due simply to the excitation of the cutaneous nerves; and the same, I have no doubt, is true of tincture of iodine, etc., in many cases. I have certainly seen good results from iodine in subacute inflammations of the joints.

Mustard plasters I rely upon a good deal in the inflammations of children. I have repeatedly alluded to the necessity of saving blood and saving strength in these cases; and if we can obtain the same derivant effect from a mustard plaster that we can from an epispastic, we should certainly resort to the milder remedy. Moreover, as these local irritants depend for their effect more upon their influence on the nerves than upon that on the circulation, I think the frequent repetition of a mustard plaster over an inflamed lung or pleura will do more good than a blister, put on once and allowed to remain and keep the child from rest. My usual mode is to mix the mustard pure; to apply it over the whole chest, both in front and behind; allow it to remain three or four minutes, until the skin is pink and nothing more; let the child rest an hour or two; and then apply again. The children do not suf-

fer much. In cases of pneumonia in the very young, it is desirable that the infants should cry now and then, inasmuch as the danger is greater from collapse in the healthy lung than from the inflammatory process in the affected one; and so I apply the mustard to make them cry. I have been very well satisfied with this plan of treatment, which I have followed for many years.

The *mustard bath*, especially the mustard foot-bath, is very good so far as it goes; when the distribution of blood is faulty it is certainly excellent. General mustard bathing I have now and then resorted to in severe inflammations of the lungs, as well as in those of the brain. I have prepared a hot bath and thrown mustard into it *ad libitum*, in order to produce a very powerful derivation to the skin in a very few minutes; and I think it has had most beneficial results.

The effect of *purgatives*, *diaphoretics*, *diuretics*, is about the same, only upon different portions of the integument; for the mucous membranes of the body must be considered only as continuations of the external skin. The fact that upon the lips, etc., we have a transition between the two proves them of essentially the same character. Thus it happens that we have the same diseases of both; and thus it is that the effect of purgatives and diuretics upon the internal integument is the same as that of mustard plasters and epispastics upon the external, only that purgatives act much more promptly and efficiently than these last, since the mucous membrane of the intestinal tract offers so very large a surface for their action. A powerful purgative coming in contact with this extensive mucous membrane amounts to much more than tincture of iodine or an epispastic to the skin.

Up to this moment, gentlemen, you must admit that I have not deserved the remark of Dr. Elliot, last Friday, that there had been a growing difference between us in our methods of giving medicine; that I had been coming to have more and more faith in powerful medication, while he had been learning to trust more to nature. Up to this moment I have been rather impressing upon you the necessity of discarding the usual medicines and applications; I have spoken disparagingly of blood letting, epispastics, etc., and have found few opportunities to recommend dosing at all, and none to advocate heavy dosing. But there are several remedies of which I mean to speak for large doses, or rather for sufficient doses, as I understand them. It will hardly be necessary to recall what I said of the rapidity with which inflammatory diseases, and the fever following them, develop in childhood; of the danger attending this rapid development; and of the necessity, therefore, if you are to do anything for these diseases, of doing it speedily and effectively. The expectant method is that which lets good alone and lets bad alone. As soon as we have arrived at a clear diagnosis I think we ought to act accordingly, and not allow a pathological process to run its own course. Therefore, so far as the antifebriles are concerned—veratrum, digitalis, camphor, quinine, ergot, etc.—I am in favor of giving them in sufficient doses. A good deal has been written, of late, upon these drugs, and very various doctrines are held concerning their effects. But, as it is our object only to establish a few clinical landmarks, and not to sift the numerous physiological experiments upon these remedies, I shall simply state what has been my habit in administering them in the diseases of children.

DIGITALIS AND VERATRUM VIRIDE.

From all that I have been able to learn by a comparison of the literature of the last twenty years, and especially since Traube published his experiments upon digitalis, it seems to me we must consider that digitalis and veratrum act upon the pneumogastric nerve. We know that when the pneumogastric nerve is paralyzed, whether from severing in its course or from destruction of its root in the brain, the action of the heart becomes uncontrollable. We see this uncontrollable action of the heart in the last stage of pneumonia, and late in acute meningitis. When this last disease has continued for some weeks after its characteristic symptoms due to irritation of the brain, all at once there sets in an increased cardiac action, with increase of temperature, etc. This is the result of paralysis of the root of the pneumogastric in the brain. On the contrary, when the pneumogastric nerve is irritated,—as in the beginning of this very disease, in commencing meningeal effusion, in tubercular meningitis,—we have the pulse slow, though perhaps irregular.

As to the clinical value of digitalis itself, I have long since given it up, for a number of reasons. Its action is not constant. You have to wait a long time before you see any action, and when you do see it, the action may be too powerful, so that instead of getting, say, one hundred pulsations a minute, as you desired, you may get forty, with perhaps vomiting and the other symptoms of poisoning. This accumulation of its effect is very frequent. Again, when given in infusion, digitalis is very apt to have a primarily irritant effect upon the mucous membrane of the stomach. For these reasons I have abandoned the use of the drug in this form, and use only the "*digitaline*," the so-called alkaloid, though it is not an alkaloid. This has the preference over digitalis that its action is uniform and not cumulative, so that you can give it for a considerable time and readily watch its effect. If you give one-sixth of a grain a day, you are tolerably sure that the effect of the second or the third sixth will not be much more powerful than was that of the first. I have never seen an unfavorable symptom follow the exhibition of digitaline, although I use it in much larger doses than those laid down in the books. These give one-twentieth to one-twelfth of a grain per day as the febrifuge dose for an adult. I have said that children require proportionately larger doses of antifebriles than adults; a child of four years will demand not one-fourth the adult dose, but even one-half, and now and then the full dose. I have thus given digitaline in pneumonia—not less than one-fourth of a grain the first day, often one-third of a grain, and not rarely one-half, and even more, when I was sure I could see the child again within twelve or sixteen hours. Digitaline may be administered either in pill or in a liquid, although it does not dissolve very readily. In chronic pneumonia, chronic endocarditis, chronic inflammation of the valves of the heart, I am so sure of the effect of this drug that I give it to office-patients and continue it for weeks. I send them off with prescriptions containing perhaps one-eighth of a grain per diem. To children, in chronic inflammations, I would give about half the dose proper for an adult; to a child of three or four years, suffering from chronic defect of the cardiac valves, I should hardly dare to give less than one-twelfth or one-sixteenth of a grain daily. It may be said of this, as well as of veratrum, that, while it reduces the frequency of the heart-beats, it certainly increases their power. These remedies are, therefore, not contra-indicated, but are indicated, in inflammatory diseases, and, by augmenting the power of the circulation, they tend to prevent congestion or stasis, of which there is so much danger, for example, in pneumonia.

Of the preparations of veratrum viride, I prefer Nor-

wood's or Percy's tincture to any other. In the acute pneumonia of a baby I give a drop of the tincture every hour; to a child four or five years old, perhaps two drops every hour. If the attendant is intelligent enough to count the pulse, I say, Bring down this pulse to one hundred and ten or one hundred, but not lower; because when the pulse falls lower the drug is apt to cause vomiting and temporary collapse. To obviate local irritation of the pharyngeal or gastric mucous membranes I give the tincture in barley water. This drug has no cumulative effect like that of digitalis. It will bear combination with quinine, and I think this is an important point. I often combine quinine with veratrum or digitalis where I want to get not a speedy but a continued effect upon the pulse. Especially in the pneumonia of a debilitated child, where you are in doubt about stimulating to any great extent—where you do not know whether you ought to commence with benzoic acid, camphor, etc.—you will control the pulse better with quinine and veratrum than with the latter alone. I ought to add that in most cases it is advisable to combine opium or hyoscyamus with veratrum, to obviate local gastric irritation.

CAMPHOR.

I have mentioned camphor. I account this an antiphlogistic, and I use it much, especially in pulmonary inflammations where a stimulant expectorant is needed; in all cases where I require a stimulant to avert the danger of collapse; and in all cases of secondary inflammation of the lungs, no matter whether due to a previous pneumonia, or to whooping-cough, or some other cause. I give camphor certainly as soon as hepatization is established, which is generally within twenty-four hours or less. Camphor is a physiological antiphlogistic, reducing the pulse and temperature even in the healthy person; and, like alcohol, it has the same effect in patients suffering from an inflammatory fever like that of pneumonia. In secondary pneumonia, especially, you will find it do more than any other expectorant; or, at all events, its effect is more protracted. One of the pet excitants in such cases is carbonate of ammonia; but while we confess that its effect is speedy and powerful, we must recognize, at the same time, that this effect passes off just as rapidly as it has come on.

OPIUM,

it is well known, is an antiphlogistic in a number of inflammatory diseases; there is none better, for instance, in enteritis, peritonitis, etc. But I believe that as an antiphlogistic in most of the inflammatory diseases of infancy and childhood it should be avoided. The doctrines of its effect upon the circulation do not seem to be so well established that we can fully rely upon them; but I think the old theory, that it dilates the blood-vessels, deserves more confidence than do the few later experiments which appear to show that it contracts them. If this be so, then opium would be contra-indicated in the fevers and inflammations of early life, because we know that these are then especially dangerous from their tendency to affect the brain. We know that, in an infant, convulsions or other brain symptoms will speedily follow even a very mild fever. This is due to the facility with which the blood-vessels of the brain dilate, at a period when the head is still growing, when the sutures are still loose, and the fontanelles still open. Any remedy tending to dilate these vessels then becomes dangerous. Thus while I am in the habit of using opium to a great extent in other affections of infancy and childhood, I refrain from its use in inflammatory and febrile affections, excepting in peritonitis, or perhaps to relieve irritation or cough, momentarily, in diseases of the respiratory organs.

QUININE.

I have a few remarks to make upon that all-powerful febrifuge, quinine. It has a number of advantages. First, it is thrown off from the system in the same condition in which it was introduced; it is not decomposed, but is eliminated as quinine. (We must say the same of alcohol when it is given only to a limited extent, though when large amounts are taken a part of it suffers decomposition.) Another advantage which, in my opinion, quinine has over other febrifuges, is that it is absolutely innocent. It is true that when large doses are given, some immediate, but transient, unpleasant effects will now and then follow. There may be buzzing in the ears, with perhaps temporary deafness; and even temporary blindness has been observed. A number of cases of permanent deafness have been reported as dependent on the use of the drug; but, after a careful scrutiny, it appears that there is not one of them which cannot be explained in some other way. In my opinion, there is not a single well established case, where permanent deafness has followed the use of large doses of quinine. Quinine was first introduced as cinchona. This is very good, but large doses are not well tolerated by the stomach, which soon exhibits symptoms of catarrh.

The credit of first employing quinine as a febrifuge is due to Broussais, who made his experiments in 1852. The effect of quinine upon the enlarged spleen was already well known. When you subject a spleen, that has been suddenly enlarged by intermittent or typhoid fever, to the influence of a large dose of quinine, you are positive that within five or six hours you will be able to demonstrate by percussion a diminution in size. This has been proved, as well, by experiments on animals. Kückenmeister, about nine years ago, showed that the normal spleen would contract in starving animals. He attributed this to the contraction of its blood-vessels, and of its proper muscular fibres. It was some time after these experiments before quinine was practically tried in the inflammatory diseases of infancy and childhood. The first diseases in which it was tested on a large scale were typhoid fever, etc.

Quinine, then, would appear to cause contraction of the blood-vessels, with contraction of the unstriped muscles generally, and especially of those not influenced by the pneumogastric nerve. It would seem also to have a further effect upon the brain, by which reflex action is greatly diminished, if not abolished. This is shown not only by clinical observation, but also by direct physiological experiments. Its effect of diminishing reflex irritability explains the action of quinine in curing or preventing reflex convulsions, especially those apt to return frequently. This effect, however, requires a tolerably or at least partially intact condition of the nervous centre; for when destruction of the lower part of the brain, near the medulla oblongata, has taken place, the effect of the quinine is seen no longer.

Another very valuable property of quinine is its antifermentative action. Given internally, or applied locally, it has been found to act favorably in necrosis, cancrum oris, etc., as well as in all those diseases supposed to depend upon the presence of fungi in the blood. Although Salisbury in America, and Hallier in Germany, may perhaps have gone a little too far in their views of the parasitic origin of disease, still it is pretty well established that many diseases must be attributed to parasites in the blood, and not to noxious gases. In such cases quinine, since it is discharged

from the body unchanged, seems to act by catalysis in preventing fermentation. There is no more powerful febrifuge in these so-called zymotic diseases, especially in scarlatina, measles, and, it is said, whooping-cough. My own experience with it, in this last affection, is not sufficient to enable me to speak satisfactorily. But whooping-cough has been considered to belong to the same class of diseases, spore-like bodies being, it is said, found in the sputa. It is a fact that when quinine is brought in contact with the tough, hard sputum in the larynx and pharynx, the attacks of coughing become less frequent; but beyond this I cannot speak from experience. In all diseases, then, where there is a tendency to septicæmia or cholæmia, quinine is the chief remedy indicated.

A further effect of quinine is to destroy, or paralyze the action of, the white blood-corpuscles. In all cases where it has been given in large doses, the number of these corpuscles is found to be diminished; in leucocythemia, for example, after large doses of quinine, the relative proportion of the red and white corpuscles becomes less abnormal. I use it a great deal in those cases where there is to be feared a migration of white corpuscles; for instance, in the very frequent cases of chronic pneumonia which, when they have lasted a long time, threaten, as their chief source of danger, besides infiltration of the pulmonary tissue, the formation of abscesses resulting from such migration. Especially when, in such cases of chronic pneumonia, or chronic bronchopneumonia, there is a little afternoon fever, a slight rise of temperature about four or five o'clock, quinine is the only thing we can rely upon. I give a child four or five years old some half-dozen grains, either in the morning or just before the fever is expected to set in. Children will take this dose for, say, ten days; and as long as they have need of it they will not complain of any unpleasant effect; but as soon as it becomes superfluous, as soon as the afternoon fever has ceased, they will begin to complain. Recently I gave this amount to the child of a friend of mine for six days. On the seventh day there was no afternoon fever, and the little girl said, "Papa, I have music in my ears."

The doses of quinine generally given are, I believe, decidedly too small—indeed, I know that they are. If the drug is to have an antifebrile effect, it must be given so as to reduce the pulse and especially the temperature; nothing which fails to do this can claim the name of febrifuge. Now I have often found that, in the pneumonia of a child of two years, a dose of five or six grains would have no such effect—none at all upon the temperature and hardly any upon the pulse—while a dose of ten grains would diminish both. I have made ever so many measurements of temperature in the rectum—the only place reliable—to satisfy myself upon this point; and when one has tested it satisfactorily, he will certainly in his next case give the ten grains at first, and not waste time on the smaller doses because the books prescribe them. At the present day we have the advantage of the thermometer in determining the action of remedies, and we have certainly as good a right to fix their doses as had those less fully armed twenty or thirty years ago.

I deem quinine indicated, also, in all secondary inflammations. In such a case I would not give less than five grains to any child of any age. With this dose I have frequently obtained a good effect in very young infants; but a child of one year will often refuse to respond to the remedy until seven or eight grains are reached; and to a child of seven or eight years I seldom give less than ten grains. The dose need not be frequently repeated. If you can see the patient in the morning and give him one good dose, you will probably find, in a few hours, that pulse and temperature have both notably fallen, or at all events not risen, as you expected. It is a curious fact that by quinine the temperature is first reduced, and the pulse follows; while by veratrum, digitalis, and remedies of that class, the pulse is the first to be affected. Therefore, as the temperature is the main element in fever, quinine would seem to be the febrifuge proper.

How shall we administer quinine? It is most surely and speedily introduced into the system when given in solution. The sulphate requires about eight hundred parts of water to dissolve it, the chloride (muriate) only about thirty parts. The latter is, besides, more kindred to the fluids of the stomach. When an acid is to be given, I prefer hydrochloric to sulphuric. Therefore, except when its price interferes, I generally prescribe the chloride of quinine, as more readily soluble in the gastric juice.

The sugar-coated pills I think it dangerous to trust, because in many instances the drug will not be absorbed at all, since the pills will not be dissolved. I have, a number of times, seen sugar-coated pills of quinine, iron, etc., discharged in the evacuations; and I am not the first to observe it, my attention having been directed to the fact by professional brethren in this city. I think it is of very frequent occurrence, especially where there is gastric catarrh.

A preparation of quinine, which has been resorted to on account of the disagreeable taste of the other salts, is the tannate. This, which is given in doses about double those of the sulphate or chloride, is nearly insoluble; and I believe many a dose has been poured down and never dissolved at all. Where I wished both to conceal the bitterness of the quinine and to get the local effect of the tannic acid, I have given the two together in the form of powder. Where we do not desire the local action of the tannin, the addition of one-fourth of a grain of this to two grains of quinine is sufficient to cover the taste to a great extent.

A mode of administration which I should prefer is, I fear, a little dangerous as yet—that of subcutaneous injection. The muriate is the only salt we can use for this purpose, and even this it is very difficult to dissolve with a small enough quantity of acid not to make the solution irritant. In an article by Prof. Binz, of Bonn, which will appear in a few days,* is described an amorphous muriate of quinine, soluble in its own weight of water, upon which I intend to experiment. It would certainly be an immense advantage in many cases if we could conveniently exhibit quinine by hypodermic injection, so as to obtain suddenly the effect of a powerful dose. I have, for some time past, used a saturated solution of chloride of quinine, which became liquid at 100° Fah., but was solid at a lower temperature. In a case where I used this preparation a number of times, I had an opportunity to make a post-mortem examination after a few days. I found large deposits of unaltered chloride of quinia in the adipose tissue

Injection into the rectum is in general just as effective as administration by the mouth. Not so much can be said, however, of the inunction of quinine, although a French writer, Semanas, has put forth a large book upon it. I have had recourse to it sometimes when both stomach and rectum would refuse to accept the remedy. And I am sure that I have been benefited by the plan of embrocations of solutions in glycerine. The dose I have been using has been four times that used internally.

If the doses I have been advocating to-night appear

* *See Am. Journ. Obstetrics*, May, 1870.—REP.

too large, I would simply desire the gentlemen to make their own experiments, but with thermometer in hand. Before the employment of this test, Guérin had insisted that quinine was much better tolerated by children than by adults. This has been my own experience, and we are able to demonstrate its correctness by the aid of the thermometer. I shall be thankful to those gentlemen who will illustrate the matter by further experiments.

THROMBUS OF THE VULVA:

A CLINICAL LECTURE, DELIVERED AT BELLEVUE HOSPITAL,

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[Phonographically reported for THE RECORD.]

GENTLEMEN:—A long time ago, at the very commencement of my practice, I was called to attend a young woman in labor. Everything seemed to be progressing favorably, when suddenly the patient screamed, threw herself to the other side of the bed, and appeared to lose all self-control. A few minutes before this I had made an examination, and found the cervix dilated and the head descended into the pelvic cavity. I was promising myself a speedy termination of the labor, till startled by the interruption of it just described.

The patient was suffering such intense pain, and the parts were so tender, that it was some little time before I could get another examination. Then I, at first, discovered a tumor, of a hardness resembling that of the fœtal head; and I thought the fœtus was just escaping from the vulva, and that it was the agony attending this which had brought the patient to her distressing condition. But I soon found that she was losing a good deal of blood, and that the uterine contractions had ceased. Her excitement and anxiety I was able to calm by perfect self-possession; but I was unable to make a satisfactory diagnosis. The indication was evidently to prevent loss of blood, though as to what the hæmorrhage meant I had not the least idea. To fulfil this indication I applied a saturated solution of alum, and made a pretty strong pressure upon the tumor, which I kept up for an hour or two, the labor-pains all the while being stopped.

The case being so obscure, I decided to call a consultation. A physician much older than myself was sent for, who made a comparatively hasty examination, and at once pronounced the case one of placenta prævia; saying that he had often had such cases; that, owing to the severe pain produced by my application of alum and compression, I had arrested the labor, and it might be some hours before the pains returned, when he would be sent for again. On the whole, he damned me with faint praise; thought I had done very well, considering that I was a very young man, just beginning practice; and, as I afterwards learned, censured me, to the family, for the ridiculous folly I had been guilty of in making my applications. He left, with directions to be called when the labor recommenced. I was hurt and humiliated, but not convinced. I found, too, that the consulting physician had not favorably impressed the family, while I had rather won their confidence and sympathy.

In the mean time my measures had stopped the hæmorrhage. About an hour later, it returned to a considerable amount; and, as the patient's chief danger seemed to be from loss of blood, I saw nothing better than to renew them. They could certainly do no harm. In applying the compresses I embraced the opportunity to make examinations, and presently came to the conclusion that there must have been some solution of continuity in one of the labia, to account for the bleeding. The nurse was a sensible woman; and, directing her to keep on the alum and compresses, I went home to consult my books. Though my library was tolerably rich in works on obstetrics, I could find nothing, as I hastily turned them over, except a short description of extravasation into the labium, with no directions for treatment. I reflected that it would not do for me, a young, unmarried man, with a reputation to make or to mar, to let the woman die with a child in her. So I turned over my books again for directions as to the use of the forceps, took my forceps, and went back to the house.

During my short absence the tumor had so increased in size that it was with difficulty I could pass my fingers into the vulva, especially since it caused the patient so much suffering—for this was long before the days of anæsthetics. The head was pretty low down, but the woman had lost still more blood. I said to myself: With this bleeding and this tumor there is no chance of the labor's terminating spontaneously; or, if there be such a possibility, and I wait for it, there must at least be a great loss of blood; the patient will probably die, and that will be ruin to me. I applied the forceps and delivered a living child. This was my first forceps case. Immediately following delivery there was a tremendous gush of blood, and almost as soon as the blood had escaped the tumor filled up again. With no authorities and no experience to guide me, I could only follow a sort of instinct, with the conviction that it was leading me right, or, perhaps, a non-formulated logic which it would have been difficult for me to defend. I am sure, gentlemen, that no general in time of battle, considering that he held the fate of an army or a nation in his hands, ever felt a heavier weight of responsibility than I did here; and, although this was twenty-eight years ago, every incident and detail of the case is stamped indelibly on my memory, as vividly as if it had occurred but yesterday. From further examination I satisfied myself that laceration of the labium had taken place, and that the extravasation of blood was into this. I recollected that Hunter, in his work "On the Blood" (which I had studied carefully in my early pupilage, and which still remains a great favorite with me), had described the case of a woman who had accidentally fallen upon the handle of a water-pail, causing laceration of the labium with great hæmorrhage. Hunter had left the coagulum to compress the lacerated vessels and stop the bleeding; had then poulticed the part and bled the patient, to keep the tissues soft and relieve pain. Suppuration had taken place, with discharge of clots, and eventual recovery with a slough. This case had not occurred in pregnancy, but it was my only guide, and I followed the plan of treatment there indicated. It was some time before my patient recovered. She had a gangrenous slough, by which the whole labium was completely destroyed. The woman got well, however, though with only one labium, and the child also lived.

Now, gentlemen, if you look through all the text-books on midwifery in the English language, including the translations into English, you will not find in one of them plain directions for the management of such a complication of labor as this. To be sure, thrombus of the vulva is now described in several books, though not in text-books on obstetrics, with the exception of Cazeaux, as a complication of labor. Very shortly after this first case of mine, I found in "Dewees on Diseases of Females"—not his work on midwifery—a very clear description of this class of accidents. Meigs

also, in his "Familiar Letters on Diseases of Women," gives a pretty clear description of it, and also McClintock on "Diseases of Women." There is a short account in "Simpson on Diseases of Women," and another in Burns. Cazeaux has the clearest and best-written article on the subject, extending to several pages, and giving excellent instructions for treatment where the accident occurs previous to labor. Bedford, in his "Obstetrics," gives a very fair description of this complication, but the directions for treatment are vague. The periodical literature of medicine does not lack reports of such cases, and in a French monograph by Deneux, published in 1830, there are sixty-two reported cases of thrombus of the labium, occurring before, during, and after labor; and out of this number twenty-two of the women died, and twenty-one of the children were lost.

I need make no apology, then, for endeavoring in some measure to supply the deficiencies of your text-books upon this subject, by bringing before you to-day a case which occurred in this hospital a week ago last Sunday. The patient is now being brought in, and the House-Surgeon, Dr. ALEXANDER C. GRAHAM, will read you his report of the case.

Margaret ———, æt. 19, New York, primipara. Labor-pains began about 12 o'clock the night of January 15th, and continued with only slight intensity all the next day. At 5 P.M. (Jan. 16th) the bag of waters broke, and the patient was immediately sent to the lying-in ward.

On examination no deformity of the pelvis or of the soft parts was found; the cervix was soft, moist, and dilatable, the os being an inch and a half in diameter. The vertex was presenting in the left occipito-anterior position. Fœtal heart heard on the left side below the umbilicus, 130 per minute. At 7.30 P.M. the cervix was fully dilated, and the uterine pains continued good and regular. In a short time the head descended to the inferior strait, and remained there till 11.10 P.M. The woman seemed to suffer a good deal of pain and could not be made to bear down.

While making an examination at this time, I noticed that the right labium majus was more swollen than at the previous examination, and that it was rapidly enlarging. I supposed immediately that I had to deal with a thrombus of the vulva, and endeavored, by moderate and equable pressure, and the application of ice, to prevent its increase. The patient says she never noticed any tumor about the vulva during pregnancy, nor received any injury in that situation.

In twenty minutes the thrombus was as large as the fist, its mucous surface being purple; and the patient was suffering intensely. The labor-pains now ceased—the head being at the inferior strait, not yet having distended the perinæum. While making preparations to incise the tumor, its coverings broke, and profuse hæmorrhage of an arterial character followed. The opening at the border of the mucous membrane was enlarged by incision; the clots turned out: and the cavity, three inches in depth, filled with a piece of ice. The head was not far enough down to make compression, and efforts to make the labor advance were unavailing. The hæmorrhage still continuing, the cavity was tamponed with pieces of sponge soaked in the liquor ferri persulphatis; this, along with firm compression made by the hand, arrested the hæmorrhage.

An ounce of urine was now drawn from the bladder, and the fœtal heart was found to be pulsating on auscultation. Dr. Barker was sent for, and, at twenty minutes after 12 o'clock, the patient being under chloroform, applied the short forceps. The child, weighing 7¼lbs., was born at half after twelve. The placenta came away in a few minutes. The hæmorrhage was now frightful—a perfect stream of blood of a bright red color falling into the vessel at the foot of the bed. The opening was again enlarged by incision, and the cavity of the thrombus tightly plugged with pieces of cotton soaked in liq. ferri persulphatis.

The bleeding now ceased; but the pulse had become imperceptible and the face was intensely pale. Two drachms of U. S. sol. morphiæ sulphatis in an ounce of whiskey were immediately given and repeated in half an hour. After the first dose the pulse was 165, very small and weak. At 3.30 A.M. it was 120 and fuller. As much beef-tea as patient would take was given, and she soon fell asleep.

At 10 A.M., Jan. 17th, there had been no return of the hæmorrhage. The vulva was gently washed with warm water containing liq. sodæ chlorinatæ, great care being taken not to disturb the large clot. The urine was drawn off, and the parts were covered with a piece of lint soaked in carbolic acid and glycerine (1 to 20). The vagina is to be thoroughly syringed, several times daily, with water containing the liq. sodæ chlorinat. Ordered two grains of quinine and one-half grain of opium every six hours; stimulants and a nutritious diet.

Jan. 18th, 10 A.M., pulse 92; respiration 18; temperature 100°. The same treatment is continued. There is no sloughing about the wound. While washing the vulva, part of the clot comes away, but there is no bleeding. At 7 P.M. pulse 120; respiration 21. This afternoon a poultice was applied to the vulva, and to-night patient passed her water. Her bowels are confined; the lochia are free.

Jan. 26th. The patient has steadily improved, without an unfavorable symptom. Her bowels were moved, several days after her confinement, with a laxative. The wound has cleaned off and is granulating nicely. Ordered iron and quinine.

You observe that we kept everything scrupulously clean by a wash of chlorinated soda. By the use of the catheter, and by having the parts covered with glycerine and carbolic acid, all excoriation or irritation from the passage of urine was prevented. The tumor has now almost entirely subsided, with but slight suppuration and no sloughing whatever. The patient has got along wonderfully well, and both she and myself are greatly indebted to the excellent judgment and care of Dr. Graham, who has had charge of the case. Willing to be made the means of saving others from the dangers by which she was threatened, the patient has consented to be exhibited. You see how healthy the tissues are looking, and that the parts are almost of their natural size, though the tumor was as large as my fist. The woman has been placed upon the most nourishing diet. She has made no fuss through the whole, and has been altogether a most excellent patient. Now she can be taken out and given a little whiskey.

This accident is one which may occur at any period of gestation; it may be found as a complication during labor; or it may not become manifest until after the labor is terminated. As I have said, it may occur during gestation, *before* labor, and I have met with several such cases, and also with a larger number, *after* labor; but the case just shown you and that which I first described are the only two which I have seen where it occurred *during* labor, although, as we have seen, the literature of the subject records many such cases. I have recently learned, too, that my colleague, Professor Wood, has had one case as a complication of labor, and that Professor Sayre has had two—all very distinctly marked. There are quite numerous cases reported occurring subsequent to labor; but then the accident is far less dangerous, and its fatality comparatively slight. Cazeaux's directions for the management of those cases belonging to the time of gestation are full and most excellent. I shall confine myself, therefore, to the diagnosis and treatment of the accident where it complicates labor.

Thrombus of the labium, or labial hæmatocele, has been mistaken for labial hernia, for inversion of the uterus, for thrombus of the bladder, for thrombus of the vagina, for the fœtal head, for placenta prævia. Thus you see that in very many cases it has escaped diag-

nosis. It seems to me that, in all these cases, the mistake must have arisen from ignorance that such an accident was liable to occur. For if aware of this liability, a physician could hardly mistake the tumor for hernia or abscess, especially when taking into account its sudden development at the time of labor. The sudden and intense pain, the sudden and profound disturbance of the nervous system, the profuse and dangerous hæmorrhage, which occur—these, in connection with a careful physical examination, which at the present day you can make with the patient completely anæsthetized, seem to me sufficient to establish the diagnosis easily.

Making an examination while the extravasated blood has simply infiltrated the cellular tissue and not yet lacerated it, you find the tumor hard and feeling very much like the fœtal head covered with the tumefied scalp. After laceration of the cellular tissue you get the sensation of fluctuation, and then the tumor could not be mistaken for the fœtal head.

The character of the hæmorrhage which occurs, and its want of coincidence with the uterine pains, should protect you from mistaking the case for one of placenta prævia. The sac may be ruptured, and the effusion of blood take place, either high up in the cavity of the vagina, or near the junction of the mucous membrane with the skin. In a case reported, it was found that the fœtal head rested against the walls of the sac, so that whenever uterine contractions came on, the pressure of the head arrested the flow of blood, and there was instead a gush of liquor amnii. This, of course, made it plain that the hæmorrhage was not from the cavity of the uterus. In another case the rupture took place very high up; there was escape of blood into the cavity of the peritonæum; and the patient died from this hæmorrhage into the abdomen, the external discharge being very slight.

There is always intense pain until laceration of the cellular tissue takes place; after this the pain is less severe, because the parts more readily yield before the pressure to which they are subjected.

The moment the head has escaped, there is of course an excessive flow of blood. In one of Professor Sayre's cases a clot was at this time projected with great force, passing over the head of Professor Elliot, who was present.

Where extravasation takes place during labor the danger is very much increased, notwithstanding that Velpeau says there are then no vessels in these parts of sufficient size to occasion danger from loss of blood. It is the fact that in some of these cases the amount of blood lost is very great, so as to produce death from this cause alone. In the cases apparently occurring immediately after delivery there is no doubt that the rupture of the vessels has been produced during the labor, although the extravasation has been delayed by the pressure of the head. In the second case reported by Professor Sayre the labor had terminated without loss of blood—in fact it was a remarkably dry labor. The child and the placenta had been delivered, and the patient had been watched for some little time, when there were symptoms of a recurrence of labor—strong bearing-down pains, which led my friend, who describes the case in his usual dramatic manner, to make an immediate examination. There was a tumor in the labium, feeling at first so much like a child's head that for a moment he feared he had made a blunder, and there was another baby to come. But palpation of the abdomen showed the uterus contracted. This case well illustrates the point that the tumor is at first exceedingly tense and hard.

There are one or two points to which I would call your attention, on which my experience is opposed to the statements of the writers upon this subject. First, it is asserted that the accident is almost always a consequence of varicose veins. Now, in neither of my two cases, in neither of Professor Sayre's, nor yet in Professor Wood's, were there any varicose veins at all. And I can say the same of the cases I have seen in which the thrombus appeared previous to labor. In the case just shown you it was evident that the blood came from a ruptured artery, for it was distinctly arterial.

Another point: Cazeaux states, and so do other authors, that the rupture occurs just as the head, or the presenting part, is escaping from the vulva. This was not the fact in my cases. The head was in the pelvic cavity, pretty well down towards the perinæum, but not yet in the least distending either this or the vulva. It was the same in Professor Sayre's cases.

I come now to the management of this accident when it occurs as a complication of labor; for, as I have said, the authors referred to give you ample directions for its management when occurring in gestation. The better to enforce the various points, we will take the case just now before us as a type.

As soon as Dr. Graham recognized the large tumor, he made an incision and turned out the clots. There had been extensive laceration before the incision. One of the staff asked me whether it was not a mistake to incise at so early a period; whether it would not have been better to wait until just before the application of the forceps. Now let me recommend to you, gentlemen, as a habit of life, always to review your cases, be their termination favorable or unfavorable, and ask yourselves if the treatment might not have been improved. I was glad to hear the question I have mentioned, for it showed this habit; and now I will answer it. I think the early incision was not a mistake, but was the very best treatment; because, the longer incision was postponed, the greater would be the amount of extravasation, the greater the distension of the parts, the more extensive the laceration of their areolar tissue. The argument of Hunter, that the clot would act as a compress, a tampon, to arrest the hæmorrhage, is, I think, altogether erroneous. In my own case, where I followed his plan, there was extensive sloughing, and the whole labium was lost. In this last case nothing of the kind has occurred; and so it was in both of Professor Sayre's. Incise at once, then, so as to relieve the parts from the pressure, and relieve the patient from the shock of the severe pain attending the tearing of the tissues—a shock far greater even than that of ordinary labor-pains. We can arrest the hæmorrhage promptly and surely by applying directly to the bleeding surface the powerful styptic, persulphate of iron. Turn out the clots, find the exact point of laceration, and apply this styptic.

The next question was between speedy delivery by artificial means, and waiting till the system should recover from the shock, and trusting nature to deliver the woman. I decided to deliver as quickly as possible with safety to the patient, and for this reason: I have already shown you that the accident is not due to varicose veins; but the exciting cause is arrest of the venous circulation by the mechanical pressure of the presenting part of the fœtus. If this be so, the sooner the pressure is removed, the sooner will the danger be over, and the less will be the injury to the parts. Deliver as soon and as rapidly as possible, and be prepared to meet the great gush of blood, that you must expect as soon as this is accomplished, by the means adopted in the present case. Apply compresses of cotton batting, saturated with solution of persulphate

of iron, directly to the bleeding part, and keep up pressure till the hæmorrhage stops. This patient was reduced almost to the last extremity by loss of blood; but these measures arrested the hæmorrhage, and whiskey and morphia brought back the pulse, which had become imperceptible.

Every author, I believe, directs that a tampon be applied. I must say, and with the strongest conviction that I am right, that I consider this direction a very bad one. In the first place, there is no need of the tampon after once arresting the hæmorrhage by the means I have described. In the next place, if the vagina is tamponed, you have all the lochial discharges retained in it to decompose; you have, moreover, pressure upon the urethra and pressure upon the other parts that have just been subjected to severe contusion. But the safety of the patient requires you to guard against every possible danger of sloughing; and against decomposition, whether of the discharges or of the blood effused, at a time when the system is especially liable to the absorption of poison. I think the greatest danger in these cases is from septicæmia. So you make use of antiseptics. I was particularly struck by the fact that our distinguished countryman, Dewees, many years ago, recommended pyroligneous acid as an application to these cases of laceration, thus anticipating the antiseptic treatment by carbolic acid, now become so famous. My colleague, Professor Sayre, used compresses of oakum impregnated with carbolic acid, through which the discharges were allowed to ooze. We employed a wash of glycerine and carbolic acid, which protected the parts from fissure and excoriation by the irritant discharges or the urine.

It is an important point in the dressing not to detach the coagulum formed by the persulphate. It presents a black, ugly-looking mass, which you are strongly tempted to clear away; but you must never remove any part of it, except such as is completely loosened. If you avoid exciting it yourself, I think there is little danger of secondary hæmorrhage. Still further to guard against such an event, this patient was not allowed, for some time, to evacuate the bladder spontaneously, but the catheter was employed. After the coagulum had become detached the parts looked a little irritated, and an emollient was applied in the form of a poultice. The result you have seen.

In looking over the records of cases like this, I find they have been treated by bleeding and an antiphlogistic regimen. This case has been treated upon the principle, directly opposite, of restoring the exhausted vital powers as quickly as possible—by opium, the great restorative, alcohol, quinine, iron, and the most nutritious diet. I think she speaks well for the treatment.

Thus, gentlemen, I have occupied the hour in endeavoring to prepare you for an emergency which is not very rare, and may occur to any one of you—an accident which has heretofore been attended with a fearful fatality, both to mother and child, but which I hope a more enlightened practice may render less dangerous in the future.

Dr. W. T. Lusk has kindly furnished the following translation and abstract from Scanzoni's *Lehrbuch der Geburtshülfe*, published in 1867, and our readers will be interested in comparing his views with those of Professor Barker.—Reporter.

Thrombus of the vulva, or labial hæmatocele, occurs oftenest during or shortly after labor. Rupture of small vessels and slight extravasations beneath the mucous membrane of the genital organs, and into the connective tissue of the vicinity, are the pretty constant accompaniment of every normal labor. In fifteen cases of thrombus vaginæ, only one was connected with varicose veins. Tumor increases slowly, if vessel alone ruptures, but much more rapidly where there is at the same time considerable separation of the contiguous cellular tissue. In Scanzoni's fifteen cases the tumor occurred eight times before expulsion of child, six times during the delivery of the placenta, and once, in a twin case, between birth of first and second child.

Scanzoni lost only one of his cases: viz., from puerperal fever. Dangers are from ichorous decomposition of the retained clots. Pyæmia may be predicted in extensive extravasations which are not evacuated in good season.

Treatment.—The speedy evacuation of the blood from the cavity is the best remedy to avoid interminable abscess-formation. Scanzoni applies forceps and delivers immediately, and only incises the tumor first where it is likely to prove a mechanical hindrance to birth. After extracting child he puts pieces of ice and injects cold water into the vagina to control increase in size, and if this fails, tampon of compresses dipped in ice-water. Don't open so long as it continues to increase. If, after opening, hæmorrhage is excessive, use ice, and in case of failure plug cavity with charpie, and plug vagina.

Original Communications.

ANTERO-POSTERIOR SYMMETRY, WITH SPECIAL REFERENCE TO THE MUSCLES OF THE LIMBS.

By ELLIOTT COUES, A.M., M.D., Ph.D.,

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Art. V.

MUSCLES OF ARM AND THIGH, ACTING UPON FOREARM AND LEG.

We will first examine the extensor systems of the forearm and leg, in which symmetrical correspondences are preserved with admirable fidelity. The essential features of the main extensor of either limb are, the blending of one 'long' with two 'short' extensors at a common point of insertion into the principal bone of the segment to be acted upon. With minor modifications in the way of size, shape, and degree of fusion of different portions, this system is closely adhered to through an extensive series of animals. The 'long' muscle in both limbs always lies between the two 'short' ones.

In the forelimb of man the 'scapular head of the triceps' is the 'long' muscle, arising from the second segment above the forearm; it is the 'long direct' extensor cubiti, and consequently the 'indirect' flexor of the humerus. The 'inner' and 'outer head of the triceps' are the two 'short direct' extensors of the antibrachium, arising from the first segment above the forearm; these have no other action. These three blend in man rather high up on the humerus to form apparently a single muscle; the divisions of which nevertheless are marked for some way further down by tendinous interstices.

In the hind limb what is called the '*rectus femoris*' is the iliac head of the great extensor; the median 'long direct' extensor cruris, and consequently, when acting from below, the 'indirect' flexor of the thigh. What are called the 'vasti' are the two 'short direct' extensores cruris; the *vastus externus* corresponding to the outer humeral head of the triceps; the *v. internus* to the inner. It would seem, at first sight, that there was another part of the crural extensor not accounted for, viz., the "*crurœus*," whose presence in man and other animals has given rise to the collective name 'quadriceps extensor.' But the crurœus, when discerni-

ble at all, is merely a part of the vasti; and in man it is not distinguishable from the internal vastus. In certain lower animals the vasti form two great fleshy masses, lying on either side of the femur, and meeting on the median line in front, without any sign of a cruræus; they meet thus, and form a bed on which the rectus—always distinct and with pelvic origin—lies; the latter is sometimes separate to its very insertion into the tibia,* just as the scapular triceps of the *ornithorhynchus* has separate insertion into the olecranon. The little muscle called "subcruræus" is a specialty scarcely to be taken into consideration in a question of morphology. Nevertheless, if we desire to do so, we find its exact homotype in the little fascicle called *subanconeus*.

Such is the morphology and such the repetitive homology of the great extensors of the cubit and leg. But in addition to these there is an "accessory" extensor in each limb; which may not appear until it is pointed out. The *sartorius* is a singular muscle, and one of the most instructive, especially when taken into consideration with its anterior correlative. In man, it is a peculiar *flexor* of the leg. Arising from the anterior superior process of the ilium, it descends the thigh obliquely, winding around it, one might almost say, spirally, to gain the inner posterior aspect, form one of the inner "ham-strings," and be inserted into the tibia a little below the knee; it flexes the leg, with the superadded action upon the thigh that has given it the name of "tailors' muscle." And although this condition and office is substantially repeated in many animals, we might suspect, *à priori*, from the peculiarities involved, that here the muscle is in a morphologically false position. This is unquestionably the case: the sartorius is potentially the long accessory *extensor* of the leg as well as actually the indirect flexor of the thigh. The latter fact—that it is actually a femoral flexor—would, it seems to me, by itself prove the sartorius to be potentially a cnemial extensor; for we have no instance of a muscle in its morphological condition being at once a flexor or extensor of two consecutive segments of limbs: if it flexes one, it will extend the next, and conversely. Whenever such double flexion or extension occurs, it is safe to regard it as a teleological modification; just as we shall see that, *e. g.*, being tied behind a malleolus changes the action of certain muscles of the foot. Now it is easy to see, both how the sartorius comes to have its special action, and how slight a change in its direction would make it appear in and act its proper part of extensor cruris combined with flexor femoris. It is merely because it is tied down under the inner condyle of the femur; released from this confinement, and slipped up over the convexity of the knee, it would extend the tibia instead of flexing it. This view is warranted by comparative anatomy. In lowest animals, and in birds (in the latter without exception, so far as shown), the sartorius is a true extensor cruris. It arises, as in man, from the tip of the ilium in some instances; in others, especially in birds, its origin may be carried still further up the body, and the muscle appear as a plane arising aponeurotic from the spines of several presacral vertebræ.† It descends straight down the front of the thigh, parallel with and at length directly overlying, the rectus, narrowing meanwhile, to be inserted with the conjoined tendon of the rectus and vasti into the tibial tuberosity. Here it is seen in its true form and function. This is palpable, and would not have been enlarged upon, were it not that the view will be novel to some students of anthropotomy alone.

The anterior longitype of the sartorius only occurs as an anomaly in man; in fact, its absence is one among the distinguishing myological characters of *Bimana*. We occasionally find in the human subject what is called "a slip from the latissimus," going to some part about the elbow, but oftener higher up on the humerus, or even the scapula. This is in man the accidental appearance of a considerable and important muscle of brutes, present from the lowest monotreme to the anthropoid apes. It is a fasciculus given off from the lower (posterior) border of the latissimus, with or without a tendinous intersection at its point of departure from the larger muscle, and proceeding to a varying insertion near the elbow; sometimes to a humeral condyle; sometimes to the olecranon, more or less blended with the tendon of the triceps (and hence sometimes described as a fourth head of the latter); sometimes lower down on the back of the forearm, with distinct bony insertion, or merely spreading out on the fascia of the parts. This is the *omo-anconeus* (Owen), afterwards called, and usually known as, the "*dorso-epitrochlien*" (Duvernoy); it is the antitype of the sartorius. When inserted into the humerus its homology is not so plain; in other cases it perfectly repeats the position, relations, and function of the normal sartorius. It flexes, *i. e.*, retroducts the humerus, and extends the cubit. The fact that it takes its initial point from a muscle (latissimus) instead of arising from bone, is no valid objection, for its origin is virtually from the vertebral spines whence the corresponding part of the latissimus arises.

It might be suggested that the human *anconeus* is the remnant of this muscle, permanently detached from its real origin, and here extended obliquely from outer condyle to shaft of ulna; at any rate, I know of no muscle to correspond in the hind limb. But it is a serious if not conclusive objection to this hypothesis that the omo-anconeus coëxists in the same species with the anconeus proper. Such, if I recollect rightly, I found to be the case in the opossum; and I have lately seen the two muscles, both highly developed, in the duck-billed platypus.

The flexor systems of the two extremities offer apparent discrepancies, no less interesting than their evident correspondences. In the fore limb we find but *two* muscles, and these under what is apparently and almost certainly their morphological condition. In the hind the number is increased to *five*, which are, moreover, highly modified. The teleological guise so completely covers the crural flexors, that we find it difficult to discover their morphology. But one quasi-flexor has just been exposed as an extensor; and I hope to clear away at least a part of the obscurity that hangs over the others.

In the arm, there are two flexores cubiti: an 'outer' and an 'inner'; one for each of the two parallel bones that compose the forearm; the outer, called '*biceps*,' is for the outer bone—the radius; the inner, called '*brachialis anticus*,' is for the inner bone—the ulna. Of these, one, the outer,* is a 'long' muscle; it arises from the second segment above the one to be acted upon;

* By no means into the patella, to be afterward attached to the tibia by a so-called "ligamentum patellæ." The patella is a true sesamoid, not a "detached olecranon;" absent in some animals, in some others only represented by a few gritty specks.

† *Cf.* Cours. Osteol. and Myol. *Colymbus;* Mem. Bost. Soc. N. H., 1866 p. 167. The sartorius arises "from the spine of the dorsal vertebræ about opposite the apex of the scapula; passes downward and outward at an angle of 45°, overlying the *latissimus dorsi*, with a uniform width of about three-fourths of an inch, to be inserted, by a flattened tendon, into the inner aspect of the projecting spine of the tibia, half an inch *above* the knee joint. It is an extensor" [of the leg].

* Morphologically—not necessarily with reference to their actual mutual relations.

the other, the inner, is a 'short' muscle arising from the first segment above the one it acts upon. No arrangement could be more simple; none, probably, better represents a fundamental condition of the flexor system. This generalization is independent of special modifications in points of attachment, size, shape, etc. The "biceps" of man, *e.g.*, is correctly named; it has two 'heads,' from coracoid and glenoid, respectively, and one insertion, into tuber radii. But in many animals it is a unieeps; in others again it has one head and is 'biped'; when the two 'feet' may both have separate insertions into the radius, or the inner of them may be transferred to the coronoid process of the ulna. The *brachialis anticus* appears more constant: still it varies; *e.g.*, it may fork above, receiving in its cleft the apex of the deltoid, etc. Ignoring these and other specializations, we must regard the muscles in the bare condition just indicated.

In the hind limb, we clearly see two muscles or sets of muscles corresponding to the two foregoing flexors; they are those that go to form the 'outer' and 'inner' "hamstrings," respectively. The former consists of the tendon of the *biceps flexor cruris* alone, on its way to the fibular head; the latter is composed of the tendons of the *gracilis*, *semitendinosus* and *semimembranosus* together, passing to the inner side of the head of the tibia. The *popliteus*, moreover, though not forming a hamstring, is yet to be enumerated among these internal flexors. Of these, the outer (*i. e.*, the fibular) muscle presents no difficulty. It is unquestionably the longitype of the outer (radial) muscle of the arm. Both are symmetrically disposed; both are 'long' flexors; both act upon homologous bones. The femoral origin of one 'head' of the *biceps cruris* (which has given it its name) is to all appearance a specialization.* Typically, the muscle runs from tuber ischii to caput fibulæ without femoral attachment; as is generally the case lower in the vertebrate scale. Its modifications are wholly analogous to those that we have seen occur in the brachial biceps; both may be double- or single-headed, double- or single-footed.†

The muscles forming the inner hamstring, including the *popliteus*, may be homologized in two ways – both reasonable. The poplitæus, notwithstanding its low origin on the femur, and its very oblique direction, both of which tend to disguise it, is, as Wilder has shown, a perfect homotype of the brachialis anticus. It is the short direct flexor cruris, and goes to the inner of the two parallel bones of the leg. But in spite of these obvious correspondences, there are considerations that tend to throw balance of evidence in the other scale. Making such identification, we leave three large and important muscles without any correlatives in the forelimb. The gracilis, semitendinosus and semimembranosus are decidedly *the* inner flexores cruris; and are, moreover, very constant muscles throughout mammals and birds, while the poplitæus is not. I presume that if anatomists were only acquainted with animals lacking poplitæus, they would not hesitate to homologize the three inner hamstring muscles as a set with the inner flexor cubiti. Their pelvic origin seems to be the chief difficulty in the way, if not the only one; they are 'long' flexors, whereas they should be 'short' ones to correspond with the brachialis anticus. The gracilis is pubo-tibial, the other two are ischio-tibial; were they femoro-tibial, they would certainly be correlated with the brachialis anticus, and the poplitæus be considered as a supernumerary 'accessory' flexor. But change in the origin of a muscle is frequent; comparative anatomy furnishes many an instance; and even in the same species, we occasionally find a difference in this respect; while insertion on the other hand is more constant, and consequently a safer guide. It is only necessary, therefore, to consider the pelvic origin of these muscles as a teleological modification of a femoral one, to be enabled to refer them collectively to the brachialis anticus, and to regard the poplitæus* as a single "accessory" flexor that has no longitype developed in the fore-limb. At present I rather incline to this view, but, fully appreciating the objections to it, do not regard it as a satisfactory determination.

* Wilder (*op. cit.*, p 82) lays so much stress upon this form of the biceps cruris, as to identify only its 'long' or ischiatic head with the biceps brachialis; referring its 'short' (femoral) head to the supinator longus. But this view is, it seems to me, inadmissible. For independently of the impropriety of considering the biceps as a compound muscle, the supinator longus has, I think, an obvious homotype among cruro-tarsal muscles.

† But a double-footed biceps cruris is the rarest modification. I found it in the opossum, where the muscle sends a slip to the inside leg-bone, thus forming one of the *inner* hamstrings, as well as the outer hamstring; an arrangement instructively correspondent to that of the two-footed biceps brachialis of the same animal—where one foot goes to radius, the other to ulna.

* The suggestion that the poplitæus is a perverse indication of a pronator teres has been made; that it is the real homotype of the latter might be impressively argued by one holding that the tibia is the homotype of the radius. But he would need to be reminded that pronator teres is especially a superficial muscle, while poplitæus is one of the most profound.

Progress of Medical Science.

Treatment of Acute Indigestion.—Dr. Thos. K. Chambers, London, (Indigestions) advocates the following treatment of acute indigestion, based on pathological condition: The first condition is to spare the weakened organ as much as possible. Complete rest should be secured to it, by administering only liquid food whose absorption requires no action of the gastric glands. Weak beef-tea is the best diet, and rest of limbs best secures rest of the abdomen.

Let alcohol be avoided as a poison: it arrests still further the arrested vitality of the stomach.

Poultices and fomentations to the epigastrium relieve pain, and keep the patient on his couch. Mustard poultices and other counter-irritants do harm if there is inflammation, and less good than fomentation if there is not.

Emetics are wanted only when completely insoluble vegetable fibre is the cause of the disease. The mildest are the best, warm mustard and water.

The natural termination of indigestion in diarrhœa is an argument for the use of purgatives; but they should be mild, otherwise they hurry the augmented secretion through the intestines with a deal of griping, and yet leave the undigested matters behind. The most eligible form is that of enema with a little mustard in it.

In children, purgatives are apt to bring on a continuance of diarrhœa, if given for stomach-ache, and they also gripe a good deal. If necessary, let gruel enemata be given. In the acute indigestions of infants, minute attention should be paid to the quality of the milk. If the suckling mother or wet-nurse should be menstruating, have recently resumed matrimonial intercourse, or had any mental excitement, the milk too readily sours. The child should have it from a bottle, with a teaspoonful of liquor calcis to the tea-cup. The same addition may be made to cow's milk, if the child is fed on that. If there is diarrhœa, a teaspoonful of water arrowroot alternately with the liquor calcis.

The Nitrite of Amyl.—At a meeting of the Clinical Society of London, Dr. Austin communicated a case of angina pectoris relieved by the inhalation of nitrite of amyl.

CHRONIC INDIGESTION.—Dr. Chambers' favorite tonic in this affection is quinine, in two-grain doses in lemon-juice sufficient to dissolve it, and diluted with water to a convenient bulk. Its action seems to be principally on the mucous membrane of the mouth, œsophagus, and stomach, which it astringes and tones up to a healthy state, restraining the secretion of mucus, and making the special secretions more active. To quinine he usually adds from $\frac{1}{24}$th to $\frac{1}{10}$th of a grain of hydrochlorate of strychnia, unless there are some contra-indications to its use.

SPECIAL DISEASES FROM MENTAL STRAIN.—According to B. W. Richardson, M.D. (*Am. Jour. of Insanity*), diseases following upon mental shock or strain, are divisible into two classes. There is a *primary* class in which the mental shock stands out as the direct and only cause of the malady, and there is a *secondary* class in which the mental shock or strain appears only to increase or exaggerate symptoms of disease which pre-existed.

In the first class the diseases produced are the same as those which sometimes follow upon the receipt of physical injury to the nervous centres. The most distinct forms of disease of this nature with which he is familiar are, diabetes, paralysis (local or general), intermittent pulse, and arterial relaxation with arterial murmur. Diabetes from sudden mental shock is a true type, a pure type, of a physical malady of mental origin.

The class of cases where the symptoms due to nervous mischief are secondary, include, according to his views, syphilis, some chronic eruptions on the skin (psoriasis especially), cancer, epilepsy, and insanity itself.

Thus the symptoms of tertiary syphilis will recur on venereal excess, without any introduction of new venereal poison; thus eruption on the skin will recur from nervous shock; thus cancer so frequently shows the first signs of its presence in mental anxiety; and in two cases of persons predisposed to epilepsy, the first seizure was clearly traced to mental prostration.

CANCER A DISEASE OF THE NERVOUS SYSTEM.—Dr. B. W. Richardson (*Am. Jour. of Insanity*) asserts that cancer is primarily a disease of the nervous system, and that the local change we call cancer, with the ulceration which caps it, is the equivalent of the change and death of part after complete arrest, produced by division of nervous communication.

CAZENAVE'S DEPILATORY OINTMENT.—The subjoined safe depilatory ointment is recommended by the French surgeon, Cazenave:

Quicklime, one part; carbonate of soda, two parts; lard, eight parts. Mix to form an ointment.

CONIUM MACULATUM.—Leonard Wheeler, M.D., Lincoln, Mass. (*Boston Med. & Surg. Journal*), states that there is no useful preparation of this drug in our Pharmacopœia. The English have a good preparation in the succus conii, which is merely the juice preserved in one-third of alcohol. The variations in strength are not so great as to be a very serious objection, depending merely on the quality of the plants used in its manufacture. The best American preparation of conium, so far as he has been able to discover, is Squibb's Fluid Extract of Conium Seed. The most reliable specimen of the alkaloid conin is made by Merck, of London. It is not a colorless liquid, as the pure alkaloid is described, but perfectly clear, and of a bright reddish brown color. It has a strong, impregnating, disagreeable odor, is strongly alkaline, and exceedingly irritating. The taste is pungent and astringent.

AN INTERESTING EXPERIMENT.—Dr. Richardson recently delivered the concluding lecture of his course on Experimental Medicine for the session 1869-70. It was remarkable for a very curious experiment, which appears to show that there is a direct and almost immediate passage of substances in the gaseous form through all the tissues of the body, and especially through the coats of veins. Dr. Richardson introduced a fine tube through the nostril of a rabbit into the cranial cavity. Air, or carbonic-acid gas, pumped through this tube, instantly made its appearance in the right cavities of the heart. The carbonic acid darkened the blood and stopped the systolic action. Atmospheric air rendered the blood of the right side arterial, and restored the systole. At some future time Dr. Richardson promises to announce the results to which he may be led by following out this line of inquiry.—*Lancet.*

THE THEORY OF CONVULSIONS.—Professor Mantegazza (*Gaz. Lombard*), found that when rabbits are so far curarised that contraction of the voluntary muscles has ceased, convulsions are produced by the injection of concentrated urine, or a solution of urea, into the jugular vein.

When from such a rabbit a muscle is cut out, which no longer contracts on the application of galvanism, and dipped in a solution of urea, it begins to contract spontaneously. He therefore concludes that urea is a direct stimulant to the muscular substance. On this supposition, he thinks that convulsions may be divided physiologically into three kinds.

1. Central convulsions, as in tetanus, tumors of the central nervous system, &c.
2. Peripheric convulsions in traumatic neuralgia, neuroma, &c.
3. Idio-muscular convulsions in uræmia, and perhaps under the influence of special poisons in the blood.

THE ACTION OF URINE ON THE TISSUES.—Professor G. Simon (*Deutsche Klinik*) has made experiments on this subject. He remarks that it has been a dogma in surgery, that urine, whatever may be its reaction, has a destructive action on tissues not protected by an epithelial covering. He injected subcutaneously in rabbits pure acid urine. It was absorbed without any apparent bad effect. Operation wounds moistened with fresh urine healed by primary intention. When ammoniacal urine was injected, even though it had been filtered, abscesses were formed, and the skin over them became gangrenous. In view of these results, the gangrene which appears so rapidly in cases of infiltration of urine, must be ascribed to the mechanical action of the fluid driven forcibly among the tissues, so as to tear or compress the blood-vessels. In plastic operations on the urinary or sexual organs therefore, it is unnecessary to leave a catheter in the bladder so long as the urine is acid, whilst such operations should not be performed, if possible, when the reaction is alkaline.

CASES OF DIAPHRAGMATIC HERNIA.—In Dr. Bowditch's monograph, published in 1853, in which he analyzed eighty-eight cases, all that were recorded in medical literature between the years 1610 and 1846, the hernial opening was observed in the left side of the diaphragm forty-one times out of eighty-eight.—*Boston Med. and Surg. Journal.*

CARCINOMA OF THE MAMMARY GLAND.—Cancer of the breast, when excised, returns and destroys the patient, as a general rule. According to Sibley, some patients operated on lived fifty-three months, others only thirty-two months. He also says the disease usually recurs in about fifteen months after operation.—*Med. and Surg. Reporter.*

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ARMY MEDICAL SERVICE ABROAD.

THE present war in Europe, it matters not how long it may last, will have a particular interest for the American surgeon. During our past struggle we have had an experience upon the battle-field unequalled in extent by any civilized nation; we have been enabled to solve many a difficult problem as to the proper care of the wounded, and can consequently claim the distinction of being, to a certain extent, experts in the matter. The ground, too, over which we have travelled has in all probability to be gone over again by our professional brothers across the Atlantic, and it becomes us to watch with solicitude their actions and results, in order to establish or to upset our own theories of army medical service.

The facts which have been developed in our experience during the last war have shown that we have also arrived at greater perfection in the care of our disabled soldiers than any other nation. Although with an army that sprang into existence as if by magic, and with a want of almost every preparation for the exigencies of the occasion, we managed not only at the end of the first two years to have in full operation a perfectly organized medical staff, but to obtain results which showed a very marked and gratifying diminution of the usual mortality. A comparison of statistics shows us that out of twelve thousand two hundred and ninety-one major operations performed collectively in the British and French armies in the Crimea, and the Union army in the Rebellion, over half belongs to the latter. When we add to this the statistics from the Confederate army, the number will probably be doubled.

The results of surgical treatment in the respective armies is not without its interest to the American army surgeon. The ratio of mortality in the French army was 72.8, in the British army 40.2, and in the Union army but 33.9. In the Schleswig-Holstein war, and in the seven weeks' war of 1866, the general average was 37.2. Thus it will be seen that American surgery leads the van in military as well as in civil service.

Let us glance retrospectively at some of the conclusions to which this experience has led us.

I. All matters pertaining to the medical care of an army must be intrusted to men educated for the purpose. The army surgeon should not only be the surgeon proper but the executive head of the hospital. He must administer all its affairs, and be responsible for all its shortcomings as to police, discipline, care of the sick and wounded, etc. Surgeon-General J. K. BARNES, while endorsing this fundamental principle of hospital government, truly says: "Never before in the world was so vast a system of hospitals brought into existence in so short a time. Never before were such establishments in time of war so little crowded or so liberally supplied. They differed, too, from the hospitals of other nations in being under the command of medical officers. Instead of placing at the head of establishments intended for the treatment of disease and wounds, officers of the line, who, whatever their other accomplishments, could not be expected to understand the requirements of medical science, and who with the best intentions in the world might seriously embarrass the action of the surgeon, as was sadly the case in the Crimean war, and has been since in the English hospitals; our Government, with a wiser discretion, made the surgeon the commandant of the hospital, and thus, while holding him responsible for the results of its management, put it into his power to make those results favorable. The medical staff can point with pride to the consequences of this liberal course. Never in the history of the world has the mortality in military hospitals been so small, and never have such establishments so completely escaped from diseases generated within their walls."

II. We have demonstrated that hospitals on the pavilion plan are the cheapest, best, and easiest constructed, and most commodious buildings of the kind, and that large edifices reconstructed are not adapted, all other things being equal, to the real wants of the sick and wounded. We have also proved that field hospitals, properly managed, lessen very materially the mortality of recent and severe wounds. Those which answered the best purposes were constructed of simple hospital tents.

III. The advantages of an ambulance system were clearly shown towards the latter part of our war. Under no other circumstances could its practical value be better tested where the area of battle-field was often very extensive, and where an army was frequently called upon to make a rapid change of base. Compelled to transport our wounded over the roughest of roads, we were early convinced of the use of every precaution in our means of conveyance that the urgency of the situation demanded. As a consequence the ingenuity of our race was taxed to its utmost to devise a suitable vehicle for the purpose. Many excellent ambulances were used, and we had an opportunity of seeing their merits tested at the recent Great Exposition,

where an American surgeon, Dr. Howard, carried off the prize.

IV. Our Sanitary Commission is acknowledged to have been the most perfect that ever had an existence, and its workings were attended with the most gratifying results. The reason for this was to be found not only in its perfectness of organization, and the energy of its managers, but in the fact that it only acted as an auxiliary to the medical staff of the regular army. Whatever of excellence, *per se*, there may be in such an institution, its legitimate object is aid rather than supplantation. Our soldiers will never forget the kindness of this Commission, and the anxious care with which it watched over their interests; the disposition it manifested to aid them in everything and anything that would tend to promote their physical comfort and welfare; how its members worked side by side with their surgeons in many a trying hour: but to the army medical department proper belonged the responsibility and credit of hospital construction, hospital management, and the medical and surgical care of the patients. On general principles this should always be so in every well-disciplined army. We are pleased to learn that a Sanitary Association has been organized in France under the auspices of Dr. Evans, of Paris, and another in Prussia, both of which take ours as their model.

V. Our late war has also been fruitful in various original appliances, instruments, operations, and methods of treatment, which have been utilized on a large scale and shown to be eminently adapted to the various emergencies which called them into requisition. It will not serve our purpose to refer to even the most prominent of these, as their mere enumeration would fill a volume. Suffice it to say that our writers on military surgery have made good use of this experience, and have, by the collection of statistics, the generalization and careful study of cases, established many facts in treatment which were heretofore only wrapped in a cloud of conjectural reasoning. Surgeon-General Barnes, with the able and talented assistance of Surgeons Woodward and Otis, has commenced the Medical and Surgical History of the Rebellion, and, as far as it has gone, there has been nothing found to compare with it in completeness. The Sanitary Commission, on its own behalf, has also issued two volumes of contributions from the volunteer medical staff, which are likewise monuments of learning and practical skill.

As Americans, we have reason to congratulate ourselves that our army surgeons have well performed their tasks; have added much to the general stock of military surgery; have, as far as results of operations in the army and the treatment of army diseases, shown the best record, and, without intending to patronize our transatlantic cousins, can bid them do likewise.

The Bureau of Vital Statistics of the Health Department of the City of New York is now thoroughly organized and in working order. Dr. Charles P. Russel, the Register, has shown himself to be eminently fitted for his position, and has instituted many important changes. Not the least of them is his system of reporting the number of deaths which actually occur during each day of the week, ending on Saturday at midnight. Accompanying this report are the daily meteorological observations for the same period. These reports are neatly printed in letter sheet for the purpose of being sent to the different scientific societies throughout the country, and also to such persons as are interested in accurate statistical data. We commend Dr. Russel's plan to the attention of Health Officers of other cities.

We present in this number a report of one of Prof. Barker's characteristic clinics. In our next we shall give another case of the same accident occurring in his service.

Reviews and Notices of Books.

Surgical Memoirs of the War of the Rebellion, collected and published by the U. S. Sanitary Commission. I. On the Wounds of Blood-vessels, Traumatic Hemorrhage, Traumatic Aneurism, and Traumatic Gangrene. II. On the Secondary Traumatic Lesions of Bone; viz, Osteo-Myelitis, Periostitis, Ostitis, Osteo-Porosis, Caries, and Necrosis. III. Pyæmia. By John A. Lidell, A.M., M.D., Brevet Lieut. Col. U. S. V., Late Surgeon in charge of U. S. A. Gen. Hospital, Inspector of Medical and Hospital Department of the Army of the Potomac, etc., etc. Edited by Prof. Frank Hastings Hamilton, New York. Published for the U. S. Sanitary Commission. By Hurd & Houghton. Cambridge: Riverside Press. 1870. 8vo.

The late war has been very fruitful in the production of many excellent practical surgical treatises founded on the experience therein obtained; but the present work is far superior to the majority, and stands, as regards intrinsic worth, almost alone. Indeed, as far as the special subjects of which it treats are concerned, it is the only one in point of completeness and practical value which has as yet grown out of our recent military experiences. Each section is treated by itself, but all have sufficient pathological dependence to be collected in one volume.

The subject of traumatic hæmorrhage, so important to the civil as well as the military surgeon, is discussed in all its varied and practical bearings, embodied in which are many original views and suggestions of the author. Concerning the wounds of blood-vessels, our author has given an exceedingly thorough and systematic account, leaving nothing to be desired. He makes five classes, each characterized by peculiar features: 1, punctured; 2, contused; 3, lacerated; 4, gunshot; and 5, incised. The division is a natural one, and by dint of much care the author has made it a very practical one. Traumatic aneurism receives its share of attention, in a pathological and therapeutical point of view especially; in the latter the author giving his preference for what is generally known as the old method. Parenchymatous hæmorrhage, long recognized by surgeons, receives here, for the first time in English surgical literature, an extended notice. Dr. Lidell makes for it three varieties, according as it occurs in the primary, intermediary, or secondary periods. The occurrence in the primary period is explained by a rigidity of the

walls of the capillaries, from previous inflammation of the soft tissues. When it takes place during the intermediary period, it is due to the imperfect closure of dilated capillary vessels when reaction comes on; and during the secondary period he agrees with Stromeyer in associating it with pyæmoid symptoms produced by thrombus. The traumatic lesions of bone comprise the second section. This, in our opinion, is the most valuable part of the work, as embodying the best account of the subjects to be found in the literature of surgery. Our author has had excellent opportunities for the study of the said lesions, both in military and civil practice, and has made the best use of the same in establishing many points original with him, and of immense value to the practical surgeon. He has taken great pains to point out the symptoms of the different bone lesions, their pathology and treatment, especially those referring to osteo-myelitis So little of real practical value is said of this latter pathological condition in surgical works, that the subject, as treated by our author, may be considered almost entirely original. Very few have examined the different conditions of this malady with more thoroughness than he, and none have studied it in the hospital ward and dead-house more faithfully and conscientiously. If we add to this, ten admirably excuted chromo-lithographic representations of the disease, in the appendix, we make this section a treatise in itself

The consideration of Periostitis, Ostitis, Caries, and Necrosis, is reasonably full. Attention is drawn, in the latter disease, to a generally unrecognized variety, the wet or mephitic osteal gangrene, the characteristic appearances of which are intelligently depicted.

The all-important subject of Pyæmia closes the volume. Our studious author has had a large clinical experience of this disease, and the following conclusions at which he has arrived are presented in full for such of our readers as may be interested in the subject:—I. Pyæmia is always connected with some local suppuration or its equivalent, that is, with some primary purulent depot as the source of infection. II. These primary depots may be either traumatic or non-traumatic in respect to origin, but traumatic cases occur much more frequently than non-traumatic ones. III. Traumatic pyæmia, in a very large majority of instances, is connected with some lesion of bone. IV. Purulent osteo-myelitis occasions pyæmia much more frequently than any other form of local suppuration, and it does so mainly because the pyæmic poison is absorbed from marrow abscesses much more readily than from any other class of abscesses. V. Pyæmia sometimes results from suppurative wounds of the blood-vessels, and in rare instances from suppurative lesions of connective tissue. VI. Pyæmia generally occurs between the fourth and twenty-third days after injury or operation, and thus corresponds exactly with the period of secondary hæmorrhage. It is met with but seldom, comparatively speaking, after the latter date. VII. Pyæmia is either acute or chronic in its course and duration. It may destroy life in two or three days, or not till the lapse of several weeks. VIII. Thrombosis is not essential to the production of pyæmia or of the secondary abscesses of the lungs, liver, spleen, etc., or of the secondary serous inflammations which characterize this disease. IX. Inflammation of the lymphatic vessels and glands constitutes a very frequent and important complication of pyæmia, but its pre-ence is not necessary or essential to the production of the disease. X. Pyæmia is a zymotic disease of septic character, and is closely allied to erysipelas and hospital gangrene. XI. The predisposing causes of pyæmia are debility, resulting from want and exposure, from scurvy, from malarial intoxication, and from chronic diseases in general. XII. The exciting causes of pyæmia are bad hygienic conditions, such as "hospital air" and "overcrowding," effluvia from filth, neglected wounds, and putrescent suppuration. XIII. The efficient cause of pyæmia is a subtle poison or contagium, of septic origin, which enters the circulation by absorption, and thus becomes disseminated through the whole organism. XIV. This poison, when diffused through the system by the circulating blood, exhibits a strong affinity or preference for certain organs or tissues, in which it kindles inflammatory irritation, and thus produces the so-called metastatic or secondary abscesses, and the so-called pyæmic or secondary serous inflammations. Thus the pyæmic poison, in the affinity which it manifests for certain organs and tissues in preference to others, is analogous in its operation to the poison of small-pox, typhoid fever, glanders, plague, and infectious disease in general. XV. Although pyæmia is a disease of septic origin, it is quite distinct from septæmia, properly so-called, such, for example, as the septæmia of traumatic gangrene, hospital gangrene, senile gangrene, etc. XVI. The prognosis in cases of pyæmia is always very bad. Almost all who are attacked with this disease perish. But few recover. XVII. Pyæmia requires a supporting plan of treatment. Quinine in doses of ten grains three or four times a day, and preparations of iron with alcoholic stimulants, p. r. n., and nutrients have proved beneficial. The oxalate of cerium has sometimes relieved the pyæmic vomiting, and bismuth the pyæmic diarrhœa, in a wonderful manner, in chronic cases. XVIII. But the prevention of pyæmia is a matter of the most importance in a practical point of view. This should be attempted by obviating the predisposing causes, by neutralizing the exciting causes, and by placing the patient beyond the range of the pyæmic contagium itself.

This volume being one of a series that shall contain surgical essays, we cannot do better for such as are to come than to wish them as interesting, practical, and as full of research and common sense. It is well printed, and is got up in the same style as the volume on medical memoirs, published three years ago.

A Treatise on the Theory and Practice of Obstetrics. By Wm H. Byford, A.M., M.D., Professor of Obstetrics and Diseases of Women and Children in the Chicago Medical College, etc, etc., Author of the Practice of Medicine and Surgery applied to the Diseases and Accidents Incident to Women; Chronic Inflammation of the Unimpregnated Uterus, etc., etc. New York: William Wood & Co. 1870.

This work was undertaken, the author informs us in his preface, with the view of furnishing the student and busy practitioner a concise and practical *treatise on obstetrics*. While acknowledging the excellence of many of the works extant upon the same subject, the author regards them as either too ponderous, too speculative, or entering too minutely into researches and discussions not desirable in the course of elementary instruction in the obstetric art. Hence, we find the volume before us devoted entirely to what is of practical and every day value to the obstetric practitioner. It cannot be denied that much of this practical information is drawn from the researches and investigations which are kept out of sight; but at the same time it is a great advantage for the student to have placed before him, briefly and perspicuously, the results of the labors of others, especially when presented by an author whose ability, experience, and success invest his opinions with a certain degree of importance, and warrant him in speaking as one having

authority. Professor Byford's great popularity as a teacher will ensure his work a favorable reception at the hands of those who have listened to his lectures, nor is there any reason to fear that their expectations will be disappointed, though we are of opinion that the book will be valuable chiefly to the student and the young practitioner.

The plan of the work is as simple as possible. It opens with a brief account of the pelvis and of the fœtal head, including all that is really of much value regarding measurements and the easiest means of obtaining them.

Sufficient space is devoted to a description of the female organs of generation, to the ovum, and to pregnancy and its varieties. On the subject of pregnancy and its relations to phthisis the author says:—

"The course of phthisis pulmonalis is often very decidedly influenced by the supervention of pregnancy. All the symptoms are generally ameliorated to a degree that is sometimes surprising, and occasionally the advance of tissual destruction in the lungs seems to be stayed. This improvement is in most instances only temporary, and after accouchement the march of the symptoms is more rapid, seeming to make up for lost time, and the patient dies in something like the same length of time as if there had been no interruption in the progress of the disease. In rare instances, and I think I have one of this kind under observation now, the woman remains greatly improved, and undoubtedly permanently benefited."

Dysentery, Professor Byford considers one of the worst complications of pregnancy, and especially to be dreaded after the middle period. Of the endemic fevers he says:

"The endemic fevers of miasmatic districts, in some years, are very severe upon patients attacked during gestation; but, like other forms, are very much influenced by occult and inappreciable causes to quite a difference in this respect. In the years 1846 and 1847, in one district near the junction of the Wabash and Ohio rivers, I was unfortunate enough to lose all my patients who had remitting bilious fevers complicated with gestation. The fever during those seasons continued uninterruptedly, under what I considered the most judicious management, until abortion or premature labor occurred, when rapid collapse was the sure precursor of death. In other seasons this fatal tendency was not observed."

In connection with this subject the reader will find a highly interesting chapter on the therapeutics of pregnancy, giving the author's experience, with various remedies as influenced by the pregnant condition. Veratrum viride is placed at the head of the list of arterial sedatives, and its "reputation of inducing abortion" Professor Byford believes to be founded on insufficient evidence. His opinion on the use of quinine during pregnancy will be of special interest to practitioners in the West and South. He says: "For several years I have entertained no apprehension of the injurious effects of quinine during gestation, and have resorted to it as freely as under other circumstances." On this point, we may remark, there is a wide difference of opinion among practitioners in miasmatic regions.

The author then takes up the subject of abortion and miscarriage, both of which are ably treated. He then passes on to labor and the various presentations and their appropriate management. There is nothing specially worthy of comment in this portion of the work, which will be found sufficiently full for all practical purposes. In regard to the position during labor, Professor Byford says he has accustomed himself to the English method of delivery on the left side, as well as the American method of delivery on the back, and gives his patients their choice between the two. In this connection we observe that some English obstetricians are declaring themselves in favor of the position on the back.

Regarding the use of anæsthetics in labor, a decided preference is given to ether, chloroform being reserved for cases where ether acts slowly or imperfectly. The author says: "As a general thing, I do not sanction the administration of ether until after the first stage is over, and withhold it as soon as the second stage is finished. But when the first stage causes a great deal more suffering than usual, it will sometimes be advisable to give it then. In tedious, difficult, and operative cases of labor, I feel as much under obligation to use the anæsthetic, and make as profound impression with it, as in the performance of any of the more painful surgical operations, and for all the same reasons." When given imprudently, Professor Byford is of opinion that anæsthetics lessen the efficiency of the pains so much that "the labor is protracted very considerably."

Concerning the indications for the use of forceps, the author has the following remarks:—

"Time is no measure of the damage likely to result from the lodgment of the head in the pelvis. In four hours, a head arrested from impaction, under the influence of efficient labor pains, may and would be likely to awaken a very destructive form of inflammation, and thus irreparable damage; but a head lodged in the pelvis on account of the want of force to push it through a pelvis well proportioned to it, in size, may remain double the time without serious damage. . . . As before intimated, we cannot derive our indications for obstetrical practice from time, but must watch the symptoms. . . . Hence, I do not believe that it is philosophical to say that if the head remains stationary for four hours we must remove it."

The remainder of the volume is devoted to natural labor in multiple cases, attentions to the child, the puerperal condition, the conduct of labors calling for instrumental aid, hæmorrhage, inversion and rupture of the uterus, prolapse of the cord, and puerperal convulsions.

Considering the special object the author had in view, of being at the same time concise and comprehensive, it must be admitted that he has done his work very well indeed, and given the profession a book that will be very acceptable, though the pleasure of reading it would be much greater if Professor Byford had given a little more attention to his style of writing. His sentences are often awkward and even inexcusably ungrammatical; but it is gratifying to find some improvement in this respect on his previous works, and in spite of literary deficiencies the author rarely fails to make himself pretty well understood. The wood-cuts with which the volume is liberally supplied are rather coarsely executed, but answer the purpose of illustration, and render material service in following the author's descriptions and demonstrations.

STATISTICS OF INSANITY.—In France, there were in 1866, according to the statistical returns of the Government, 50,726 insane, and 39,953 idiots and cretins; in England, 1868, by report of the Commissioners in Lunacy, 33,213; and in the United States not less than 60,000.

CLINICAL TEACHING IN INSANITY.—To Professor Griesinger we are indebted for the practical solution of the question of clinical teaching in insanity, in the year 1863.

Reports of Societies.

NEW YORK MEDICAL JOURNAL ASSOCIATION.

STATED REUNIONS, APRIL 15 AND 22, 1870.

DR. ISAAC E. TAYLOR, PRESIDENT, in the Chair.

ANTIPHLOGISTICS IN DISEASES OF CHILDREN.

DR. JACOBI made some remarks upon *Antiphlogistic Treatment in Diseases of Children*, published in the RECORD of May 2 (p. 97), of August 1 (p. 289), and in our present issue.

DR. GEO. T. ELLIOT.—Though I did not know the subject of to-night's discussion, yet the name of Dr. Jacobi was a sufficient attraction. One thing which I have always had occasion to admire in his way of dealing with the problems of disease is his close adhesion to physiology, so happily shown in his work on "Dentition and its Derangements." But there have always been some questions of practical therapeutics in which I have had to differ from him; and it seems to me that this difference between us has been a growing one—his faith in therapeutic means and powerful doses growing stronger, while I have been more and more inclined to leave matters to nature and to milder methods.

With regard to venesection in infancy, I am glad to find that we agree. There is great danger in Chambers' advice to apply a leech to the belly, and then a poultice into which the leech-bite is to be allowed to bleed freely. I fear the catalogue of those who have been led by the elegance of Dr. Chambers' style to make trial of this practice, would show too many cases of a fatal result. I am in terrible doubt, often, when I drag children by forceps into the world, presenting every appearance of congestion of the brain. I cannot make up my mind to apply a leech over the mastoid process, nor do I often let fly blood from the cord. But here I speak with modesty.

As to extravasations, their tolerance by the fœtal brain has surprised me, and it is a question whether they are not far more frequent than commonly supposed.

I was struck by the doctor's statement that the heart is most frequently diseased in fœtal life. I have been interested for many years in autopsies of still-born children, and my experience is that diseases of the heart have been much rarer than those of other organs—indeed, very rare. I have met more frequently diseases of the kidneys and of the ureters—leaving out of view, of course, all syphilitic and tuberculous affections.

With regard to uric acid infarction, I have the idea that if every child were placed, as soon as born, to a full breast, this infarction would not be found in case the child should die by accident a day afterwards. The reason is that children pass, relatively, some six times as much urine as adults; and the amount of urine they excrete is in direct proportion to the supply of milk. Let the infant, then, be put at once to a full breast, so that the water may wash out the kidneys. But this is of little practical importance. Much more important is it at once to secure the balance of nutrition in the child's favor.

In the administration of chloroform to infants I have not found the difficulty that has been mentioned. I remember giving it twice in one day to a baby nine days old, for the reduction of hernia, and there was no trouble.

In cases of infantile tetanus, I think we have, in this country, too much neglected the thorough examination of the spinal cord. I recall always with interest a fatal case of this disease in a young child, where I found at the autopsy, to my surprise, an extensive hæmorrhage, the blood having passed down to the bottom of the vertebral canal.

A great deal has been said by the Doctor regarding the action of cold water. Too many people still fail to distinguish between the two opposite methods of applying it—the one continuously so as really to get the effect of cold; the other by a wet compress left unchanged, so that you very soon have a warm poultice. Of the great value of cold in acute conjunctivitis, whether of the new-born or of the adult, there is no doubt. But if you attempt its application to infants, especially in hospital practice, you will find in the majority of cases that the attendant is neglectful, and that you are poulticing the eyes. The popular "cold-water" cure of sore throat is, of course, nothing but poultice-treatment. I often direct a flannel bandage, wrung out of water, to be worn around the abdomen, and in many disorders of the abdominal viscera in women, I am sure that this treatment (a poultice) will do much good.

In the application of cold to the head in the cerebral disorders of children, upon which Dr. Jacobi's remarks seemed to me extremely important, I have met with the same difficulties of which he speaks. With very restless children, where the direct cold application produces great irritation, it has been my habit to apply a warm evaporating lotion, and then let the nurse gently fan the head. In graver cases, however, it becomes necessary to resort to the ice-bladder, or the steady dropping from a siphon above the head.

The Doctor said that his great reliance in diphtheria, apart from tracheotomy, was ice. I can bear personal testimony to the great comfort derived from this, for it is comparatively few years since I myself experienced it in an attack of scarlet fever. But I cannot accord it the same value as an exclusive treatment. Far rather would I testify to the great value of oxygen gas, enabling the child to get along with a less amount of air; and to Dr. Jacobi is due the credit of its first employment thus in this city. I shall by and by have something to say upon this subject myself.

I should certainly differ from the Doctor as to the propriety of applying ice to an inflamed joint in rheumatic synovitis. What is the danger? Metastasis is rare, I admit, but it occurs; I have seen it even without any exciting cause. I remember the case of a gentleman who lay suffering excruciating pain in one wrist, which was greatly swollen. In a flash the pain left this wrist entirely, to attack the other in the same style. I have seen but three cases in which acute rheumatism has attacked the meninges of the brain. Two of these did well. The third was that of a near friend of mine, where suddenly, and delightfully as it seemed, the pain and swelling left the joint, when symptoms of meningitis set in and he died unconscious within forty-eight hours. Is the experience of the world—is the experience of all these gouty and rheumatic generations—to go for naught? What can we do in this disease? Render the urine alkaline as soon as possible. While the rheumatic fever is expending its force upon a joint, it is in a safe place, for there is little danger that pus will form. Let it work there while we control the pain by hypodermic injections or alkaline fomentations, and meantime are pushing our attack upon the very head and front of the offending by means of the alkaline treatment. It will be understood that I give these arguments simply to present the other side of the question. I am perfectly able to offer arguments against those I have just stated. I am perfectly able to say that we should not hastily condemn the cold applications, but await the testimony of statistics; only I say let not the material for such

statistics be myself, or my patients, or my friends—*fiat experimentum in corpore vili.*

Dr. Carroll called attention to a valuable article in the last number of the *British Med. Journal*, upon the use of cold water in typhus and typhoid fever.

Dr. A. H. Smith.—I have been especially interested in the remarks upon counter-irritation. While not disposed to disparage the *rôle* played by the nervous system in the action of counter-irritants, I yet think that their principal effect is produced through the circulation; and there are some points with regard to this which might be more fully brought out. The supply of blood to the different parts of the body is evidently dependent chiefly upon the calibre of their capillaries and arterioles; so long as this is normal the distribution of the blood will be normal; but the moment the capillaries of any one organ are either dilated or contracted, that moment the entire circulation of the body is deranged. For example, let us suppose that, in a given unit of time, four pounds of blood pass through the entire capillary system, and that in that time one pound passes through one of the inferior extremities. If, now, we immerse that extremity in a hot mustard bath and dilate its capillaries one-half, it will allow one pound and a half of blood to pass through it, and we have abstracted half a pound from the rest of the circulation. If, on the other hand, we plunge it into cold water and contract its capillaries, we diminish the amount of blood that can pass, and to that extent produce congestion of the rest of the system—most probably of some of the internal organs. So in an extensive burn, where the superficial capillaries are occluded by the height of the inflammation, we have congestion and inflammation of the lungs. I think that, similarly, very decided changes in the circulation might be produced by changes in the pressure of the atmosphere upon the surface of the body, since this would act chiefly upon the cutaneous capillaries. In considering the effect of remedies upon the circulation of a part, as in the case of opium mentioned by Dr. Jacobi, we must have regard not only to their direct effect upon the peccant organ, but, as well, to that upon the system generally. For if an organ be congested, general relaxation of the capillaries of the body will relieve it, and *vice versâ*.

Dr. Messenger.—I was called to see an old gentleman in Brooklyn with double pneumonia. He was in a very critical condition, temperature in the axilla 105°, pulse frequent, breathing very frequent and very short, skin cyanosed; speedy dissolution was expected. Having much confidence in the curative power of quinine, I began by giving a dose of twelve grains, and then gave six grains every hour for twenty-four hours. I was certainly very much surprised by the favorable effect produced in that time—the reduction of the temperature by three degrees, the lessening of the frequency of the pulse and of the rapidity of the respiration. I had also cupped the patient over the chest; but I attributed his relief from the danger of imminent dissolution to the quinine. In the febrile diseases of children, and especially pneumonia, I have used it a good deal, and I think it should be used much more frequently than it is.

I have myself suffered much from the effects of intermittent fever in years past, and I have found remarkably good results from large doses of quinine—twelve to twenty-four grains—not very often repeated. Within a few days I have passed through a critical sickness from the effects of a malignant pustule on the hand. I took twelve-grain doses of quinine, several of them in the twenty-four hours, with the effect of allaying the fever and restlessness; and to-night I am feeling as well as before my illness, although the hand is still sore. As to the use of *dragées*, I cannot myself take large doses in any other form without nausea—except in extract of licorice—and I have always found them efficient.

Dr. A. C. Post.—I have been in the habit of using blisters to a considerable extent in the treatment of the inflammatory diseases of children, and I am fully satisfied in my own mind that they have produced salutary effects. If a blister is applied at the proper time and removed at the proper time—for everything depends upon that—if not allowed to remain on longer than an hour and a half or two hours, when vesication will not appear until after its removal, then instead of its producing constitutional disturbance, I have found it decidedly anodyne, putting the child to sleep, and tranquillizing the pulse. But the consequences of leaving the vesicant on the skin for too long a time are very formidable. I have seen some cases where I think children have died from the effects of blisters, and others where they have suffered great tortures.

Dr. Elsberg.* — Dr. Jacobi's remarks commend themselves to every practitioner as the results of a wide practical experience. I will not attempt to follow him into detail; but there is one thought regarding the general tendency of his views which I would like to express. It seemed to me that he did not sufficiently dwell upon the fact that many diseases, especially many inflammatory diseases, are self-limited, and require no drug-interference on our part, no dosing whatever. Making this your first rule, *never, in any disease, to interfere by means of drugs without a distinct therapeutic indication or object*, then make your second that stated by Dr. Jacobi, *to give remedies for effect, i. e., to accomplish that object.* Do not mind the doses of the books, but get the effect before you stop their administration. This is made necessary by the greatly differing susceptibilities of different individuals. I am sure that I have thus tentatively given doses of the drugs that have been mentioned which would sound almost frightful, while in other cases I have gained the full effect desired from doses that would seem insignificant.

In the matter of blood-letting I think we have gone too far toward the negative extreme. With this, as with most other antiphlogistics, the great point is to use it as an equilibrifier, a *balancer* of the circulation. I am sure a physician ought never intentionally to weaken a patient; nor is it true that abstraction of blood, within proper limits, always and necessarily reduces the strength of the system. What it reduces, and what we want it to reduce, is abnormal or irregular action, disproportionate vascular excitement or congestion, in order to restore the equilibrium of the circulation and the equilibrium of all the processes of life. It is this equilibrium that we aim to establish, whether our object be to affect the function of any organ, or to effect tissue-metamorphosis. It is the active local determinations of blood, the arterial excitement of inflammations, that can be beneficially modified by antiphlogistic treatment, and for which I think bleeding indicated. The proper time for bleeding is the early stage of the disease, and the quantity abstracted should not be too large. Local depletion has all the advantages of venesection, except in some cases; convenience of application, and promptness of action; and wherever it can be employed it should be preferred, just because it is a less general, less severe, and (on account of the smaller quantity of blood withdrawn) a less consequential interference. In cases of active or passive congestion of important organs in robust, plethoric individuals,

* The report of Dr. Elsberg's remarks, revised and expanded by himself, at his special request.—Reporter.

apoplexy, puerperal convulsions, etc., a prompt venesection has doubtless, I think, saved lives; and, on the other hand, by omission to bleed, lives have been lost; although, of course, in all cases, so powerful a remedy must be used with caution, as, for instance, in senile apoplexy.

DR. JACOBI.—I would ask, what are those self-limited diseases that will not permit any interference?

DR. ELSBERG.—Their list is so much longer than that of all other diseases, that it would be easier to name the latter. In a general way we may say that all endemic, epidemic, infectious, and contagious diseases are naturally self-limited; that inflammation shows a tendency toward delitescence and resolution upon removal of its exciting cause; and that all the phlegmasiæ, when not of too high grade, not of too rapid course, or not threatening vital organ and function, may safely be permitted to get well with hygienic antiphlogistics, as rest, cold, regimen, etc., without drug-interference. Of such practice, even the treatment of pneumonia may serve as a type. The diseases not self-limited are those in which tissue-destruction, and important tissue-destruction, is going on so rapidly that our prompt interference may be required to check it. It is therefore that venesection, the *summum remedium* of our forefathers in the treatment of inflammations, is more frequently necessary in meningitis than in pneumonia, and more frequently in pneumonia than in erysipelas. In the presence of so many students of medicine and recent graduates as I see here this evening, it seems to me that Dr. Jacobi's rule of energetic and heroic drug-medication requires some qualification which, I doubt not, he acts upon in his own practice. As the aggregate tendency of all the forces of the living organism is toward the best possible result attainable under all the conditions, it is the physician's duty to place his patient in such circumstances, and to favor or supply such conditions, as allow or promote recovery of health. Whenever, in pursuit of this duty, drugs are given, it should be done with a distinct object as to their effect, but in no case should the physician become a routine-doser, a *druggist* of diseases!

DR. JACOBI.—If there is any disease which is not self-limited in infancy and childhood, it is just this pneumonia; and therefore, in my opinion, if there is any disease which demands interference it is pneumonia. The doctor has evidently been remarking upon the regular croupous, and so-called lobar, pneumonia, which we see in adults, and which we see immediately after birth, in the first month or two. There we can say that it is a disease which, after invading the organism, will run its regular course in a given time. Yet even there I hold that, as a rule, we ought to interfere, on the general principle that the longer the fever lasts, and the higher the temperature, the greater is the danger. But the pneumonia of infancy and childhood is of the catarrhal, lobular character, and it is not "self-limited." A pneumonia will last seven, eight, nine days in an adult; and in a child it will last seven, eight, nine months. It is not "self-limited" for the reason that it is not *one* pneumonia, but many pneumonias; there may be as many of them as there are bronchial ramifications affected. Therefore I say, that where we have a disease so dangerous in its consequences—likely to lead to consumption, even—we must follow it up, and, if possible, prevent new attacks by relieving the bronchitis; and if a new attack comes on we must relieve it, because relief for that is prevention for another.

DR. J. B. REYNOLDS.—I consider it my duty, as I have been associated with Dr. Jacobi in the same institution, to endorse the general tenor of his remarks upon antiphlogistics in children's diseases, and especially upon the use of cold water, quinine, and ergot. With regard to the treatment of catarrhal affections of the eye by cold water, some difference of opinion was expressed last Friday. I find that in forty cases of very severe catarrhal conjunctivitis which I have had under treatment within the last four months, cold water, constantly applied, was the only remedy we had occasion to resort to. All of the cases recovered, and in not one was there any ulceration. In the treatment of pneumonia, as it commonly occurs in the children found in our public institutions, I know that it is very seldom necessary to apply any marked counter-irritation; but the constant and free use of quinine and carbonate of ammonia, with, of course, plenty of nourishment and good hygiene, has brought about recovery in many cases that had seemed hopeless, and in others has restored them to comparative health and comfort. Dr. Jacobi will remember a child lately brought to the clinic with countenance livid and respirations 100 a minute. Large doses of quinine and camphor were given, and the child is now alive and perfectly well. I have had good opportunities, in public institutions, of testing the value of the large doses of quinine, and I must heartily approve of them. I must approve also of employing counter-irritation but rarely in acute troubles, though we may fall back upon it in chronic, subacute inflammations.

The meeting adjourned.

Medical Items and News.

MISS GARRETT.—This indefatigable Englishwoman has just passed her final examination for the degree of Doctor of Medicine in Paris.

QUADRUPLETS.—Dr. R. H. Tarlton, of Martinsville, Ind. (*Am. Practitioner*), recently delivered alive three females and one male, which soon died. There were two placentas. The mother made a good recovery.

THE ALBANY MEDICAL COLLEGE MUSEUM.—Dr. T. D. Crothers (*Med. & Surg. Reporter*) writes that the museum of the Albany Medical College has the largest collection in Osteology in America (if not in the world). Of fractures alone there are over seven hundred specimens. The late Dr. Alden March made a collection of 128 specimens, illustrating diseases of the hip-joint, and fractures of the neck of the femur. In Prof. McNaughton's collection are five giant skeletons, called by the students "Highland Brothers." They are over six feet high. The whole number of specimens catalogued is 3,549, which, together with those deposited, would swell the number to 5,000 and over. These specimens have been gathered within a period of thirty years.

DEATH OF AUZIAS TURENNE.—This renowned Swedish syphilographer died in June of pneumonia. After his death more than fifty scars were discovered on his body where he had inoculated himself with the syphilitic virus.

A CENTENARIAN.—According to the *Gazette Hebdomadaire*, there is now living in Warsaw a man 112 years of age. Only three years have elapsed since his hair became gray, and when he was 93 years old he had a son by his second wife. His father lived 120 years, and his grandfather 126 years.

DEATHS FROM SMALL-POX.—Russia, in the 69 years commencing with 1801, has lost, by small-pox, 10,350,000 children.

A Valuable Prize Awarded.—MM. Paulet and Jules Sarazin have been awarded a prize of the value of £100, by the Academy of Sciences, for their excellent treatise and atlas of surgical anatomy.

The Scottish Brain.—Dr. Peacock announces that the average brain weight of Scotchmen, between the ages of 20 and 60, is 50 ounces.

An Appointment in the Paris Faculty of Medicine.—M. Chauffard has received the appointment of professor of general pathology in the Faculty of Medicine of Paris.

Cincho-Quinine.—At a late meeting of the California Pharmaceutical Society, all the members agreed in noticing the absence of *quinia*, and the great preponderance of *cinchonia* in the "cincho-quinine" manufactured by Nichols & Co., of Boston, Mass.

Paris School of Medicine.—Dr. Charles Daremberg has been elected to the newly vacated chair of History of Medicine, in the Faculty of the Paris School of Medicine.

Ipomœa Simulans.—Daniel Hanbury, F.R.S., Honorary Member of the Chicago College of Pharmacy (*The Pharmacist*), finds that one of the most remarkable kinds of jalap is a tubercule imported a few years ago for the first time from Tampico, and thence called *Tampico Jalap*. He ascertains that it is a production of the State of Guanajuato, Mexico, where it grows along the Sierra Gorda, in the neighborhood of San Luis de la Paz. He has also drawn a diagnosis and description of the plant, which is called *Ipomœa simulans*, from the remarkable similarity which the plant bears in foliage and habit to the true jalap (*Ipomœa Purga*, Hayne).

The Association of the Alumni of the Massachusetts College of Pharmacy.—This Association held its first meeting on Friday evening, June 24th, 1870. The following officers were then elected: *President*, Prof. G. F. H. Markoe; *First Vice-President*, H. W. Lincoln; *Second Vice-President*, J. T. Brown, Jr.; *Secretary*, T. Doliber; *Treasurer*, C. H. Bassett; *Executive Board*, J. C. Lowd, C. B. R. Hazeltine, A. B. Warfield, E. S. Kelly.

The First Medical Journal Published in this Country.—The first medical periodical published in America was the *Medical Repository*, commenced in 1797, in the city of New York, and edited by Drs. Saml. L. Mitchell, Edward Miller, and Elihu H. Smith.

Chicago Sewerage.—This flourishing Western city has 110¼ miles of sewers.

New York Ophthalmic and Aural Institute.—This institution, under the charge of Prof. H. Knapp, has passed through its first year successfully, and from the yearly report we learn that there have been during the year ending April 30th, 1870, 1,828 patients treated in the Dispensary, of which number 1,387 were for eye diseases, and 441 for ear diseases. One hundred and forty-three persons were treated as resident patients.

Two hundred and twenty-eight operations have been performed, of which 181 were for eye diseases, and 38 were for ear diseases. There were 56 operations for primary (52) and secondary (4) cataract; for squint, 138; enucleation of eyeball, 24; and operations on the lids, 58.

Extirpation of polypoid growths, 14; extirpation of hypertrophied tonsils, 22.

At the regular annual meeting of the Board of Trustees, held May 23d, 1870, the officers were re-elected for the ensuing year.

Insane and Idiotic Persons in Michigan.—In this State there were in 1850, insane, 133; idiotic, 189. In 1860, insane, 251; idiotic, 333; and the coming census for 1870 will probably show not less than 600 of each.

Michigan State Medical Society.—The fourth annual meeting of this flourishing State Society was held in the Senate Chamber at Lansing, June 8, 1870. Several important medical papers were presented and ordered for publication. The following officers were elected for the ensuing year: *President*, I. H. Bartholomew, M.D., Lansing; *Recording Secretary*, Geo. E. Ranney, M.D., Lansing; *Treasurer*, D. O. Farrand, M.D., Detroit; *Corresponding Secretary*, Geo. W. Topping, M.D., De Witt. Two delegates, for the first time, will be sent to the next meeting of the N. Y. State Medical Society.

An Interesting Case of Hydrocephalus.—At the late meeting of the Michigan Medical Society Dr. Geo. E. Ranney, of Lansing (*Mich. Univ. Med. Jour.*), reported an interesting case of "Hydrocephalus." It had its origin in cerebral meningitis, occurring at the age of four weeks in a child born of healthy parents, and caused death at the age of two years. After death the circumference of the head was found to be thirty-six inches.

Medical Journals in the United States.—There are at the present time about forty medical journals published in this country.

The University of California.—The Board of Regents of the University of California have nominated Prof. D. C. Gilman, of the Scientific School of Yale College, for its President. An application has been made by the "Toland Medical College" to the Regents of the University, for admission as a department in this institution.

Copper Mines in the United States.—The Calumet and Hecla mines of the Portage Lake district, Lake Superior, will produce this year 12,000 tons of copper. This alone is sufficient to supply consumption.

The American Chemist.—This is the title of a journal which will be devoted to analytical, theoretical, and technical chemistry, and is under the editorial charge of Chas. F. Chandler, Ph. D., and W. H. Chandler. This journal is to take the place ofthe American reprint of the *Chemical News*. Messrs. Baldwin & Co. have purchased of W. A. Townsend & Adams the subscription list of the reprint of the *Chemical News*, and will present everything of value from the English edition in this new independent journal. The plan of the *American Chemist* includes, in addition to such original articles as may be available, the reproduction of all such foreign and American matter as may be thought to be of interest to American chemists.

The July number, containing forty pages of reading matter, has been received, and bears evidence of careful and able management on the part of its editors.

Sulphurium.—This defunct element—since suggested as thallium, discovered by Crookes in 1862—was discovered by Joseph Jones in 1857, in residues of a sulphuric acid manufactory.

Death of a Celebrated French Physicist.—At the last meeting of the Faculty of Sciences at Paris, the President announced the death of Prof. Lamé, a member of the Institute since 1843. Among his very many published works, those on mathematics and on the elasticity of bodies are the most celebrated.

First Importation of Cinchona Bark from Java.—It appears that, toward the end of last year, a quantity of some 930 lbs. of this bark has been exported from

Java to the Netherlands. From analysis made by Dr. B. Moens, in Java, this bark contains from 2.4 to 7.5 per cent. of alkaloids, of which quantity 0.59 to 3.67 is quinine. The loss of weight occasioned by the drying of the bark has been found to amount to 66 per cent.

There is every prospect that within some 6 or 7 years hence Java will largely export this drug; and the cultivation of the cinchona trees is also to be extended to Sumatra, Celebes, and the Moluccas.—*The American Chemist.*

NEW WORK ON ANALYTICAL CHEMISTRY.—Wherever, on the Continent, French is read, the following work, of the second edition, is highly eulogized: "Précis d'Analyse Chimique Qualitative," par Gustave Chancel, Ph.D. etc., Doyen de la Faculté des Sciences de Montpellier.

A MAMMOTH INFANT.—The birth of an eighteen-pound girl is reported in Douglass, Mass.

THE DISCOVERY OF ANIMAL ELECTRICITY.—Galvani discovered, in 1791, that muscular contractions followed the connection of the nerve and muscle of a frog by a heterogeneous metallic arc, and from this fact he was led to declare in substance that animals have a special, independent electricity, deserving the name of *animal electricity*. In 1827, M. Nobili, having constructed a very sensitive galvanometer, was enabled to detect, without doubt, the existence of an electric current in the frog. He observed that when the needle was placed in the circuit it was deviated from 30°.

THE WOMAN'S MEDICAL COLLEGE OF THE N. Y. INFIRMARY.—The winter session of this Institution commences on the 1st Monday in October, and continues twenty-four weeks. Through the indefatigable industry and perseverance of Drs. Elizabeth and Emily Blackwell, the founders of the school, females now have the opportunity of getting a thorough and practical medical education, under efficient male and female professors. For further particulars, students may apply by letter to Dr. Emily Blackwell, Secretary of the Faculty, 128 Second avenue, New York city.

A NEW ANÆSTHETIC.—M. Sauer, a Berlin surgeon-dentist, advocates the use of a mixture of protoxide of nitrogen, chloroform, and atmospheric air, in the following proportions: Liquid chloroform, six grammes; atmospheric air, three-fourths of a litre; and protoxide of nitrogen, sixteen litres.

HUMAN VACCINATION VERSUS ANIMAL VACCINATION.—To show how low the theory of animal vaccination has fallen, the following declaration by French medical officers is appended: "We, the undersigned, medical officers of the Bureau de Bienfaisance of the Seventh Arrondissement, after examining, watching, and comparing the results of the vaccination services established at the Mairie of the Seventh Arondissement, with vaccine lymph taken from the heifer, are of the opinion that the results are most unsatisfactory, even in the case of infants, and that this system ought to be discontinued; and request that Jennerian lymph be placed at their disposal."

A CASE OF TRIPLETS.—Dr. L. L. Jones, of Deerfield, Mich. (*Med. and Surg. Reporter*), writes that he was summoned, June 25th, to the bedside of a multipara, æt. thirty-two, weighing in ordinary health 115 pounds, and found her in labor for the fourth time. She was delivered of *three* boys in quick succession. The first weighed six pounds four ounces; the second five pounds ten ounces; and the third five pounds two ounces. The first two were attached to a common placenta, the third had a placenta of his own. Seventeen pounds of baby all doing well.

CROUP.—Although croup was known to Hippocrates, there was no clear description of it earlier than that of Blair, in Scotland, 1718. In 1765, Home, of Edinburgh, also gives it a distinct place in the family of diseases.

Of all the titles given to this disease, Dr. J. H. Hobart Burge, of Brooklyn, N. Y. (*N. Y. Med. Jour.*), prefers *laryngo-tracheitis*, as expressive of the fact that it is an inflammation of the larynx and trachea. In this he but conforms to the views of Cullen, Home, Dickson, Peaslee, Condie, and others.

N. Y. STATE HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM.—The trustees of this hospital have secured the large and well-appointed building at the southwest corner of Second avenue and St. Mark's place, N. Y. City, for the reception of patients. It is the design of the trustees to have an out-door department, at which patients residing at their own homes can attend and receive gratuitous treatment. The capacity for in-door patients will be about twenty-five beds. The medical officers are: Dr. W. A. Hammond, *Physician in Chief;* Dr. Reuben A. Vance, *Asst. Physician;* Dr. T. M. B. Cross, *Resident Physician.*

STONE IN THE FEMALE BLADDER REMOVED BY DILATATION.—Mr. T. Pridgin Teale, of Leeds (*British Med. Jour.*), after dilatation with the finger, extracted with the lithotomy forceps a stone from the female bladder weighing nine drachms one scruple; the circumference longitudinally was five inches; the circumference transversely was three and three-fourths inches. A rapid recovery followed without incontinence of urine.

A CASE OF EXTRAORDINARY FECUNDITY.—A. C. White, M.D., of Spring Hill, Tenn. (*Rich. and Louisville Med. Jour.*), transmits an extraordinary case of fecundity, occurring in a colored woman, aged 36 years, who has borne twenty-six children. This case was alluded to last year in the same journal, and he repeats that she had six children at single birth, all of whom are living; then followed twins eight times in succession; then triplets, which Dr. White delivered, and now a single birth. All of the children of plural births died in a few days or a few months after birth, excepting one of the triplets, which was still-born. The interval between her plural births has not been longer than 12 months.

THE SON OF THE LATE HENRY CLAY.—Theodore Clay, son of the distinguished Henry Clay, who died recently, was for forty years an inmate of the Lunatic Asylum at Lexington, Kentucky.

NEUROMA.—The term Neuroma (Tumor of Nerve), or rather *Neuromes*, was first employed by M. Odier of Geneva.

SUCCEDANEUM OF QUINIA.—M. Pavia, Professor of Chemistry in Italy, has discovered an alkaloid, which he terms *bussine*, which was extracted from the leaves and roots of boxwood. Several Italian physicians have used it in their practice, and with success, at the rate of 75 per cent. of cures.

WILLARD ASYLUM FOR THE INSANE.—The completed buildings of this new institution are located on the east bank of Seneca Lake, in the town of Ovid, Seneca county, New York, on the farm known as the farm of the "State Agricultural College," consisting of about 475 acres, lying about half a mile on the lake, running back from it one to one and a half miles. Thus located, the asylum is easy of access, two steamers passing it each way daily, and landing within fifty rods of the asylum, connecting at Geneva with the New York Central, and at Watkins with the New York and Erie Railroads.

The north and south wings, designed for the insane and their attendants, will accommodate 250 persons.

Since October 12, 1869, one hundred and forty-two insane persons, from twenty-one different poor-houses in the State, have been received into the asylum; of which, sixty-four were males, and seventy-eight females. Forty-seven were between the ages of thirty and forty; thirty-eight were between forty and fifty; twenty-one between fifty and sixty years. Eighty-eight were born in New York State and thirty-five in Ireland. Fifty were married, and eighty-eight unmarried. Forty-eight were house-workers, seventeen were farmers, and thirteen laborers. The form of mental disease is as follows:—Dementia, fifty-seven; chronic mania, sixty-three. Thirty-three per cent. were excitable and dangerous; the remainder tranquil and manageable. Ten per cent. of those admitted were found to be epileptics.

The trustees express great satisfaction and approval of the conduct of the medical superintendent, Dr. John B. Chapin, and Dr. Chas. L. Welles, the assistant physician.

HYDRARTHROSIS.—During the last fifteen years sixty-nine bonâ fide cases of hydrarthrosis have come under the observation of Dr. Louis Bauer, of St. Louis, Mo. Of these, fifty-one cases could be distinctly traced to traumatic causes.

"ONE MONKEY'S MEAT ANOTHER MONKEY'S POISON."—Some interesting experiments have been lately made in India with strychnine upon monkeys by Surgeon Ringer, Seventh Cavalry, which not only tend to show that certain species are susceptible to this poison, while others are proof against its influence, but also lend support to the prevailing impression that these animals will never eat any poisonous substance, however much disguised. A specimen of the "Chunder" monkey (*Innuus rhisus*), which would not touch fruit in which one grain of strychnine had been concealed, succumbed in an hour and a half to the influence of three grains, dissolved in water, which had been forcibly administered to it; while, on the other hand, a "lungoor" (*Presbytis entellus*), distinguished from the above species by the absence of cheek pouches, not only showed impartiality for "bitters" by readily devouring ten-grain doses both of quinine and of strychnine concealed in fruit, but also drank with much gusto some grog, in which as many grains of the latter drug had been dissolved, and is, moreover, "as well as ever at the present moment."—*Lancet.*

DEATH OF DR. JAMES COPLAND.—This celebrated London practitioner, and author of the popular *Medical Dictionary*, after a labor of thirty years, died from hæmaturia, July 12, 1870, at the ripe age of 79. Dr. Copland survived the completion of his valuable Dictionary twelve years. He was editor of the *London Medical Repository* from the year 1822 to 1835.

SYPHILIZATION.—Prof. W. Boeck, of Christiania, now in this country advocating the treatment of syphilis by the repeated inoculation of venereal matter, as proposed by M. Auzias Turenne, in 1844, believes "syphilization" acts, and acts only, through the absorption of the virus inserted in the repeated inoculations.

ANEURISM OF THE ORBIT.—The first reported instance of aneurism of the orbit is Mr. Travers' case (*Med. Chir. Trans.*) in 1809, described as "aneurism by anastomosis." Dr. Thomas Geo. Morton, of Philadelphia (*Am. Jour. Med. Sciences*), believes it was a true aneurism, or a diffuse one following upon rupture of the former. Next is Mr. Dalrymple's in 1813, which was also described as an "aneurism by anastomosis," and similar to Mr. Travers'.

VASCULAR PROTRUSION.—Thomas Geo. Morton, M.D., of Philadelphia (*Am. Jour. Med. Sciences*), has published an interesting article on "Orbital Aneurismal Disease," and adds that Mr. Nunnelly has reported no less than seven cases of orbital disease of a vascular nature, and proposed the term "*Vascular Protrusion.*"

CARRYING THE OBSTETRIC FORCEPS.—Ellerslie Wallace, M.D., Prof. of Obstetrics in Jefferson Medical College, Philadelphia (*Am. Jour. Med. Sciences*), remarks to his medical class as follows: "I deny the right of any man to attend a case of labor, unless he carries his forceps with him; and I consider that teaching erroneous which says, Go without your forceps, but *send for them* when you see the probable necessity of their use."

THE PRIORITY IN THE OPERATION OF KOLPOKLEISIS.—Dr. Nathan Bozeman, of New York (*Am. Jour. Med. Sciences*), in reply to Gustave Simon, Prof. of Surgery in the University of Heidelberg, with reference to the claim of priority in the operation of *Kolpokleisis* (transverse obliteration of the vagina), withdraws his own, made in 1867, and alludes to A. Bérard's case, published in 1845, in Dict. de Med., vol. XXX., which takes precedence. *Kolpokleisis*, in the latter case, was not less completely effected than in the first operations recorded by Prof. Simon.

GUY'S HOSPITAL, LONDON.—This old hospital, founded in 1721, has 572 beds, of which 344 are reserved for surgical cases, 216 for medical, and 12 are devoted to private cases.

ST. GEORGE'S HOSPITAL.—Dr. Reginald Thompson, Medical Register of this London hospital, reports that peroxide of hydrogen has been faithfully administered in cases of diabetes to patients admitted into this institution, and is valueless as a remedy in this disease.

THE FIRST ENTIRE EXCISION OF THE SCAPULA.—George Pollock, Esq., Surgeon to St. George's Hospital (*St. George's Hospital Reports*), publishes two cases of excision of the scapula, and attributes the first entire excision of the scapula to the late Mr. Syme. Langenbeck was the first, as his operation preceded that of the Scotch surgeon by several months.

INSANITY PRODUCED BY SPIRIT-FAITH.—Charles Elam, M.D., M.R.C.P., asserts in his "Physician's Problems," that "of the lunatics confined in asylums in the United States, there are 7,520 who have become so entirely owing to this 'spirit-faith.'"

LITHOTOMY.—The last twenty-two cases of lithotomy performed at St. Bartholomew's Hospital have been without exception successful.

THE PULSE IN PARTURITION.—In the Coombe Lying-in Hospital, out of 100 consecutive cases of parturition in which the daily state of the pulse was noted, it was found as low as 60 in 5 cases, and within the first 24 hours after delivery; it had risen to from 70 to 84 on the second day in each, and maintained this average as long as the patient tarried in hospital. In one case the pulse was as low as 56 eight hours after labor. This woman was delivered in the street, on her way to the hospital. On the second day the pulse was 72. On the seventh it was 84. This was the only case of the list in which the pulse was under 60.—*Dublin Quart. Journ. Med. Science.*

AN EPIDEMIC OF ROSEOLA PREVAILING IN CENTRAL KENTUCKY.—John D. Jackson, M.D., of Danville, Ky. (*The Rich. and Louisville Med. Journal*), gives an account of an epidemic of Roseola now prevailing in Lincoln and Mercer counties, Ky., and adds that he has not heard of a single instance in which an adult has been attacked. He has not yet seen or heard of a case in which there was a second attack, or a fresh recurrence of the eruption within a week or ten days after subsidence, as is not unfrequently the case in roseola. Its appearance in some families in which the first case would be that of one of the children who had been going to a school in which it was prevailing among the scholars, and then those who had all the while been remaining at home having it in succession, seems a strong argument in behalf of its contagiousness.

THE FIRST WRITERS ON GONORRHŒAL RHEUMATISM.—John Hunter, Schwediaur, and Th. Selle, in 1781, described this affection, and Hippocrates, in his aphorism, *Eunuchi non Laborant Podagra*, is thought to have referred to it. Then came the articles of Murray, Vegarons, 1786, of Joannis Colli, Monteggia.

NITROUS OXIDE GAS IN EXCISION OF THE MAMMA.—J. R. Begg, Surgeon to the Dundee Royal Infirmary, advocates the employment of this gas as an anæsthetic in amputation of the mamma. A writer in the *Richmond and Louisville Medical Journal* has also employed this gas in many cases of minor surgery with uniform good results.

FEMALE MEDICAL STUDENTS.—We are informed the lecturers at Surgeons' Hall, Edinburgh, have adopted the following resolutions:—"1. That it is expedient that lecturers in this medical school should be free to lecture to female as well as to male students. 2. That no restrictions be imposed upon lecturers as to the manner in which instruction is to be imparted to women."—*Med. Press & Circular.*

"NATURE" states that the University of Vienna has decided to admit women to all the advantages of its medical school, and that two French students have already availed themselves of the privilege.

CHANGES OF TEMPERATURE IN TYPHOID FEVER.—M. Garcin, of Marseilles, has published, on the authority of Professor Fabre, a series of observations of great value and importance on temperature in typhoid fever. There is, it appears, a distinct relation between the temperature and the intestinal lesion. As long as the intestinal glands are infiltrated and swollen, the thermometric rise is constant; whilst they are ulcerated, the thermometer is stationary, and is in a remarkable manner subject to peculiar changes. If the products of the ulceration are in course of elimination, the temperature is uniform. If, on the contrary, the septic products are absorbed, pass into the blood, and cause poisoning, the interstitial combustion takes on new activity, the temperature again rises, and finally the descent of the thermometer indicates the repair of the intestinal lesions.—*Med. Press & Circular.*

THE LATE EPIDEMIC IN THE PITTSFIELD FEMALE SEMINARY.—The fatal typhoid fever which prevailed, some months since, in the Pittsfield Female Seminary, Mass., was clearly traceable to a foul and neglected cesspool and privies, the air from which was conveyed through the halls of the seminary by a wretched system of ventilation.—*Mich. University Med. Journal.*

SIMPLE SYRUP AS A COLLYRIUM.—In granular lids, Dr. Lawson Tait, of London, has advocated simple syrup as a collyrium. He uses syrup, made of such strength that it does not deposit sugar; about three drachms to an ounce of water.

THE LARGEST CALCULUS ON RECORD.—A cast of the following urinary calculus was exhibited at a meeting of the Pathological Society of London, March 15, 1870. The calculus, composed of uric acid and urate of lime, weighing twenty-five ounces, and measuring ten and a half inches in its long, and eight and a half inches in its short circumference, was removed from the body of Sir Thomas Adams in 1667, after death from an accident, in the eighty-first year of his age.—*Mich. Univ. Med. Journal.*

AN ANECDOTE OF SIR SAMUEL GARTH.—This celebrated and witty physician, in the year 1700, stumbling into a Presbyterian church one Sunday, for pastime, found a pathetic preacher shedding tears over the iniquity of the earth.

"What makes the man greet?" asked Garth of a bystander.

"By my faith," was the answer, "and you too would greet if you were in this place and had so little to say."

"Come along, my dear fellow," responded Garth to his new acquaintance, "and dine with me. You are too good a fellow to be here."

SYDENHAM.—This distinguished man died in his house, in Pall Mall, London, on the 29th of December, 1689. In his last years he was a martyr to gout.

A DESCRIPTION OF THE DISCOVERER OF THE BLOOD CIRCULATION.—Aubrey says of Harvey—"He was not tall, but of the lowest stature; round-faced, olivaster (like waintscott) complexion; little eie—round, very black, full of spirit; his hair was black as a raven, but quite white twenty years before he died. I remember he was wont to drink coffee, which he and his brother Eliab did, before coffee-houses were in fashion in London. He was, as all the rest of his brothers, very cholerique; and in his younger days wore a dagger (as the fashion then was); but this doctor would be apt to draw out his dagger upon every slight occasion. He rode on horse-back with a footcloth to visit his patients, his man following on foot, as the fashion then was, was very decent, now quite discontinued."

AN UNGUENT FOR HYPOCHONDRIACAL PERSONS.—Sir Theodore Mazerno, of England, the most eminent physician of his time, and whose list of monarch-patients comprised two French and three English sovereigns, died at Chelsea, in the 82d year of his age, March 15, 1655. Like John Hunter, he was buried in the church of St. Martin's-in-the-Fields. His prescriptions show that his enlightenment was not superior to the prevailing ignorance of the period.

His sweetest compound was his "Balsam of Bats," strongly recommended as an unguent for hypochondriacal persons, into which entered adders, bats, sucking-whelps, earth-worms, hog's grease, the marrow of a stag, and the thigh-bone of an ox.

A TIME-HONORED STAFF.—The celebrated "gold-headed cane" which Radcliffe, Mead, Askew, Pitcairn, and Baillie successively bore, is preserved in the London College of Physicians, bearing the arms which those gentlemen assumed, or were entitled to.

THE PRIZE SYSTEM IN SCHOOLS.—Benjamin W. Richardson, M.D., F.R.S. (*Am. Jour. of Insanity*), alludes to this subject in his paper on "Physical Disease from Mental Strain," as follows: "I have always persistently opposed the special prize system in schools. As a teacher with large experience, and as a student, I can

recall no single instance in which noted prizemen in early youth bore away more than other youths the prizes, that is to say, the successes, of after life. I have, however, known many, many times the successful prizemen in the class the least successful afterwards, and as often have known the most ordinary man in class come out as the best man in life."

QUACKERY IN OLDEN TIME.—A successful quack by the name of Graham, established himself in a spacious mansion in the Royal Terrace, Adelphi, London, in the year 1780. The "Temple of Health," as it was usually spoken of, quickly became a place of fashionable resort, and amongst the furniture was a celestial bed, provided with costly draperies and standing on glass legs. Married couples, who slept on this couch, were sure of being blessed with a beautiful progeny. For its use £100 per night were demanded, and numerous persons of rank were foolish enough to comply with the terms.

NEW YORK TUMOR DISPENSARY is a new institution, located at 101 East 30th Street, N. Y., for the gratuitous treatment of such as are afflicted with morbid growths. J. A. Hagy, M.D., is the Attending Surgeon, and Drs. T. A. Emmet and J. C. Nott the Consulting Surgeons.

SUNSTROKE.—A writer in the *N. Y. Medical Journal* asserts that the earliest reference in literature to sunstroke is the death of Manasseh in the barley-harvest: —"The heat came upon his head, and he fell upon his bed, and died in the city of Bethulia." The earliest account of any value in English medical literature is that of Mr. Russell, of the 73d line, while in charge of the 68th at Madras, in 1834.

If the author will consult the 4th chapter of 2d Kings, of the Old Testament Scriptures, at the 18th and 19th verses, the following words relative to the son of the Shunammite woman, aged about 14 years, which are supposed by prominent divines to indicate *the first recorded case of sunstroke*, are apropos:—"And when the child was grown, it fell on a day, that he went out to his father to the reapers. And he said unto his father, My head, my head. And he said to a lad, Carry him to his mother."

THE BRITISH POPULATION.—Between 1750 and 1800, the British population rose from twenty to forty millions.

DEATH OF THE QUEEN'S SURGEON-DENTIST.—Robert Nasmyth, F.R.C.S.E., and Surgeon-Dentist to the Queen, died May 20th, æt. 78. He was a skilful surgeon, as well as dentist.

OHIO STATE MEDICAL SOCIETY.—At the late meetings of this prosperous Society, held at Cleveland, June 14th, 15th, and 16th, 1870, the following officers were elected for the ensuing year:—President, Dr. Thad. A. Reamy, of Zanesville; Secretary, Dr. W. C. Hall, of Fayetteville; Assistant Secretary, Dr. E. H. Hyatt, of Delaware; Treasurer, Dr. J. B. Thompson.

On motion of Dr. E. B. Stevens, Cincinnati was selected as the place for meeting for 1871.

SÉDILLOT.—This great surgeon of Strasburg, aged 70, has requested the Minister of War to be allowed to join the army of the Rhine as a surgeon volunteer.

PARIS MEDICAL STUDENTS.—The French Minister of War has announced that all medical students in Paris who have completed three years of study will be received with the rank of Assistant Surgeon into the military hospitals organized in the theatre of war. Above a hundred medical students have already answered to the call, and received their assignment.

THE NEW SPOUTING SPRING AT SARATOGA.—This new and favorite water is a powerful cathartic, and very agreeable as a beverage. Prof. C. F. Chandler, Ph.D., of Columbia College School of Mines, has made the following analysis, from water collected by himself personally at the fountain:—Chloride of sodium, 562.080 grains; chloride of potassium, 24.634 grains; bromide of sodium, 2.212 grains; iodide of sodium, 0.248 grains; fluoride of calcium, trace; bi-carbonate of lithia, 7.004 grains; bi-carbonate of soda, 71.232 grains; bi-carbonate of magnesia, 149.343 grains; bi-carbonate of lime, 170.392 grains; bi-carbonate of strontia, 0.425 grains; bi-carbonate of baryta, 2.014 grains; bi-carbonate of iron, 0.979 grains; sulphate of potassa, 0.318 grains; phosphate of soda, trace; bi-borate of soda, trace; alumina, trace; silica, 0.665 grains; organic matter, trace. Total solid contents, 991.546. Carbonic acid gas in U. S. gal., 454.082 cub. in.; density, 1.011; temperature, 46° Fah. It spouts day and night, to the height of twenty feet, thirty gallons every minute, through an inch nozzle, under the pressure of its own carbonic acid gas. This spring is situated two miles south of the village of Saratoga.

ACADEMY OF SCIENCES: PRIZES FOR 1870 ADJUDICATED.—The Academy held a public sitting, July 11, for the announcement of the names of those to whom the prizes for 1870 had been adjudicated. The President, Prof. Claude Bernard, announced the following prizes:

The *Prix de Statistique* was awarded to Dr. Chenu, for his great work entitled *Statistique Medico-Chirurgicale de la Campagne d'Italie en* 1859 *et* 1860.

The *Prix de Médecine et de Chirurgie* was not awarded this year. The subject proposed was the "Application of Electricity to Therapeutics." Though the prize was not given to any one, medals were given to three meritorious physicians—viz., Drs. Legros, Onimus, and Cyron.

The *Prix de Physiologie Experimentale* was awarded to M. Famitzin, for his researches into the influence of light upon the nutrition of plants. An honorable mention, with a gift of 60 francs, was also decreed to MM. Léon, Tripier, and Arloing, for their researches on the cutaneous nerves.

The *Prix Bréant* (5,000 francs) was given to Dr. Fauvel, for his work on the "Etiology and Prophylaxis of Cholera." Twenty-five authors sent in works in candidature for this prize.

The *Prix de Médecine et de Chirurgie de la Fondation Montyon* was divided among three medical gentlemen. Five doctors were honorably mentioned in connection with this prize.—*British Med. Journal.*

INFANTILE CHOLERA IN PARIS.—This disease—that is to say, the summer diarrhœa of infants—is very prevalent in Paris.

New Publications.

BOOKS RECEIVED.

MEDICAL DIAGNOSIS, with Special Reference to Practical Medicine. A Guide to the Knowledge and Discrimination of Diseases. By J. M. DACOSTA, M.D., Lecturer on Clinical Medicine and Physician to the Pennsylvania Hospital; Fellow of College of Physicians of Philadelphia, etc., etc. Illustrated with engravings on wood. Third edition, revised. Philadelphia: J. B. Lippincott & Co. 1870.

STATE OF NEW YORK, ANNUAL REPORT OF INSPECTORS OF STATE PRISONS, for the year ending September 30, 1869. Albany, 1870. From Arthur S. Wolf, M.D.

Original Communications.

ON CERTAIN POINTS CONNECTED WITH

THE HISTOLOGY OF MINUTE BLOOD-VESSELS.

BEING A REPORT TO

SURGEON-GENERAL J. K. BARNES, U. S. A.,

By J. J. WOODWARD, M.D.,

ASSIST. SURG. AND BREVET LIEUT.-COL., U. S. A., ETC., ETC.

BREVET MAJOR-GENERAL J. K. BARNES, SURGEON-GENERAL, U. S. ARMY.—*General*: Having recently been occupied in the critical examination of certain preparations, in the Microscopical Section of the Museum, illustrative of the minute anatomy of the blood-vessels, I have thought that some of them threw so much light on certain points involved in the recent discussions with regard to the doctrine of inflammation, that a short account of them would be of interest, and might perhaps do good service, in connection with the appreciation of the conflicting statements which have appeared in the medical journals since the publication of the paper of Dr. J. Cohnheim,* on inflammation and suppuration.

Perhaps the observations of Cohnheim must fairly be regarded as elaborations of the previous experiments of Dr. Augustus Waller, but certainly they produced an impression upon the medical world far beyond that made by the papers in the Philosophical Magazine,† and more or less complete accounts of the conclusions arrived at by the distinguished Berlin observer have continued to appear, from time to time, in both foreign and American medical journals, ever since the publication of his paper in 1867.

Recently protests against these conclusions have appeared in various quarters, among which particular reference may be made to the paper of Prof. Koloman Balogh, of Pesth, published in 1869,‡ and that of Dr. V. Feltz, of Strasbourg, in 1870.§ Both these authors have failed to see the white blood corpuscles pass through the coats of the small vessels in the manner described by Cohnheim, and deny the existence of stomata, between the cells of the vascular epithelium, large enough to permit such a wandering to occur.

It is well known to you, General, that after I had perused Cohnheim's paper I procured a number of frogs, and having on hand a small quantity of Wourara, the gift of my friend Dr. S. Weir Mitchell, of Philadelphia, I carefully repeated many of the experiments described. I received the impression from what I saw that Cohnheim was a most conscientious observer, who had described as faithfully as possible the impressions made upon him. Certainly the results I obtained, by following his methods of producing inflammation in the cornea and mesentery of frogs, could be described in his very language without drawing upon the imagination. Nevertheless my other duties did not leave me sufficient time for an exhaustive research in this difficult domain, and it is far from my present purpose to enter into a critical discussion of the subject. It is simply my desire to offer a brief description, illustrated by Photo-micrographs, of certain preparations in the Microscopical Section of the Museum, which bear upon some of the points involved, and thus to contribute what is in my power towards the important object of arriving at certainty with regard to the facts on which our future theories of inflammation are to rest.

Most of the preparations here referred to are examples of the results attainable by staining the tissues with a dilute solution of the nitrate of silver. This reagent has been employed for various histological purposes during the last ten years, and has attracted attention especially in connection with the cornea, the various forms of connective tissue, the ultimate branches of the lymphatics and the boundaries of the cells which constitute epithelial surfaces. General attention was first drawn to its use by Dr. F. von Recklinghausen, of Berlin, in 1860,* and further particulars were contributed during 1861, by Prof. His, of Basil,† who would appear to have already employed the reagent for several years. In 1862 Von Recklinghausen published his work on the lymphatics,‡ which contains a detailed account of many elaborate experiments with regard to the action of silver solutions on the tissues, and in 1863 Dr. Ernst Oedmanson, of Stockholm,§ gave a description of their behavior when applied to epithelial surfaces, and described and figured the so-called stomata which play so important a part in the theory of Cohnheim. During 1865 and 1866 the epithelium of the capillary blood-vessels, as shown by silver, was described by several observers, among whom Dr. N. Chrzonszczewsky, of Charkow,‖ may be particularly mentioned.

The perusal of these papers led me to make a number of experiments myself, and to have others made by my assistants at the Museum, the results of which are now to be described.

If a dilute solution of nitrate of silver is brushed over a clean epithelial surface taken from a recently killed animal, and the tissue after washing with distilled water is exposed for a short time to the action of sunlight, it will be found on microscopical examination that a brownish black precipitate of silver has been produced at the boundaries of the epithelial cells, while the cells themselves are comparatively but little stained, or, if the manipulation has been carefully conducted, are not stained at all. For this purpose I have most frequently employed, at the Museum, a solution made by dissolving one part of crystallized nitrate of silver in four hundred parts of distilled water, but considerable variation on either side of this strength does not much

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* Ueber Entzündung und Eiterung. Virchow's Archiv. Bd. XL., S. 1.

† Microscopical Examination of some of the principal Tissues of the Animal Frame as observed in the Tongue of the living Frog, Toad, etc. London, Edinburgh and Dublin Philosophical Magazine, Vol. XXIX., p. 271 (1846). Microscopical Observations on the Perforation of the Capillaries by the Corpuscles of the Blood, and on the Origin of Mucous and Pus Globules. Ib. p. 397.

‡ In welchem Verhältnisse steht das Heraustreten der farblosen Blutzellen durch die unverschrten Gefasswandungen zu der Entzündung und Eiterung? Virchow's Archiv. Bd. XLV., S. 19. Readers inclined to attach importance to this paper should read the caustic criticism of Dr. Alexis Schklarewski of Moscow. Ib. Bd. XLVI., S. 116.

§ Recherches Expérimentales sur le passage des Leucocytes à travers les parois vasculaires. Journal de l'Anatomie et de la Physiologie. Jan. and Feb. 1870, p. 88.

* Eine Methode, mikroskopische hohle und solide Gebilde von einander zu unterscheiden. Virchow's Archiv. Bd. XIX., S. 451.

† Ueber das Verhalten des salpetersauren Silberoxyds zu thierischen Gewebsbestandtheilen. Ib. Bd. XX., S. 207.

‡ Die Lymphgefasse und ihre Beziehung zum Bindegewebe. Berlin, 1862.

§ Beitrag zur Lehre von dem Epithel. Virchow's Archiv. Bd. XXVIII., S. 361.

‖ Ueber die feinere Structur der Blutcapillaren. Ib. Bd. XXXV., S. 169. C. J. Eberth in his article on the blood-vessels in Stricker's Handbook (Handbuch der Lehre von den Geweben, etc. Leipsic, 1869. II. Lief. S. 202) enumerates the following microscopists as having described the epithelium of the capillaries prior to Chrzonszczewsky. *Hoyer.* Archiv. für Anatomie. Jan. 18, 1865. *Auerbach* Breslauer Zeitung. Feb. 17, 1865. *Eberth.* Sitzungsberichte der physikal. med. Gesellschaft zu Würzburg. Feb. 18, 1865. Medicinisches Centralblatt, No. 13, 1865. Würzburger Naturwissenschaftliche Zeitschrift. Bd. VI., 1866. *Aeby.* Medicinisches Centralblatt. No. 14, 1865.

modify the result, provided the solution is well washed off before the tissue is exposed to the light.

If the same solution is injected into the blood-vessels, the lining epithelium is handsomely mapped out in all those membranous and superficial parts in which a ready exposure to the action of light is practicable, and although in the parenchymatous organs, such as the liver, the spleen, the kidneys, etc., the juices of the tissues are apt to interfere with the reaction, yet even here occasional success may be attained. In practice it is often found advantageous to combine the silver solution, intended for injection, with a certain amount of gelatine, by which the blood-vessels are kept handsomely distended and the beauty of the preparation is much increased. This plan was proposed by Chrzonszczewsky in the paper already quoted. His formula, which I have found to work well, is as follows: Half an ounce of fine gelatine is dissolved in four ounces of distilled water, and to this is added a solution of one scruple of nitrate of silver in two fluid drachms of distilled water. After injecting with this fluid, the tissue is exposed to the light precisely as after the use of the simple silver solution.

There are preserved in the Microscopical Section of the Museum a number of silver stainings in which the epithelium has been thus mapped out on the skin, the peritoneum, the lymphatic-sacs of frogs, and the blood-vessels. These preparations, after the action of the silver, have been mounted in Canada balsam, with or without the previous staining of the nuclei with carmine. The detailed steps of the process may prove useful to some readers. The silver staining having been successfully accomplished, the nuclei are tinted preferably by the solution of carmine in borax, described by Thiersch in his work on epithelial cancer.* It is prepared as follows: Four parts of borax are dissolved in fifty-six parts of distilled water and one part of carmine added to the solution; one volume of this fluid is mixed with two volumes of absolute alcohol, and after crystals have formed the mixture is filtered. The filtrate may be used for staining, but if the crystals of carmine and borax which remain on the filter are dissolved in a small quantity of distilled water, I find the solution thus obtained answers a still better purpose. The portion of tissue to be studied is soaked in this solution until colored deep red. It is afterwards treated with a saturated solution of oxalic acid in alcohol, by which all color is gradually removed except from the nuclei. So soon as this is accomplished the piece is to be carefully washed in alcohol, then soaked in absolute alcohol, and finally mounted in a solution of dried Canada balsam in chloroform or benzole. The treatment by oxalic acid, subsequently to the action of the carmine-borax solution, has the additional effect of altering the purplish-red color, derived from that fluid, to the brilliant hue obtained by the use of the ammoniacal solution of carmine ordinarily employed in histology. The latter has the disadvantage of being apt to dissolve out the previously produced silver staining, an annoyance completely avoided by the carmine-borax solution.

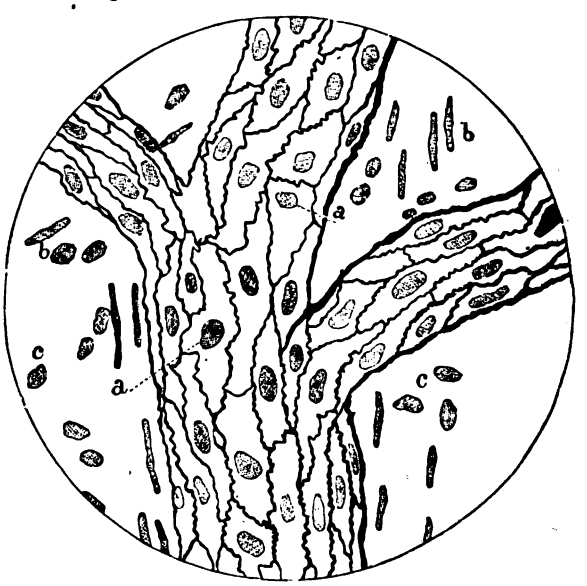
Preparations carefully made by the above process closely resemble the fresh tissues, as they appear after staining if immersed in glycerine or syrup; they are somewhat more transparent, but not inconveniently so, and possess the great advantage of keeping unchanged for an indefinite period of time.

After these preliminary remarks, I proceed at once to the description of the photographs.

I. Photograph representing several venous radicles uniting to form a small vein, in the muscular coat of the urinary bladder of the frog. Negative No. 102, New Series. From preparation No. 3,378, Microscopical Section. Magnified 400 diameters by Wales's ¼th objective, illuminated by the Magnesium lamp. The preparation was made by Dr. J. C. W. Kennon.

The principal venous trunk represented in this photograph is 1-400th of an inch in diameter. It is formed by the union of three smaller radicles, of which that on the left hand is much out of focus. Another smaller radicle, also much out of focus, joins the trunk on the left, near the bottom of the picture. The walls of the venous trunk, and of those of its branches which are in focus, are plainly seen to be formed of somewhat irregular epithelial cells, which vary in shape and size, averaging 1-500th of an inch in length and 1-2200th in breadth. The boundary of each cell is indicated by a zigzag black line. In each of the cells which is accurately in focus, a smooth, oval nucleus, 1-2800th of an inch in length, is visible. In examining the original preparation, by changes in the fine adjustment of the microscope, similar nuclei can be seen in each of the epithelial cells. These nuclei, being brilliantly stained with carmine, contrast sharply with the black cell-boundaries resulting from the silver imbibition. By a still further alteration of the fine adjustment, the cells and nuclei of the opposite side of the vein are brought into view.

In the tissue external to the vein, two kinds of nuclei are shown in the photograph. The first are narrow and elongated, averaging about 1-1500th of an inch in length and 1-9000th in breadth. These are the

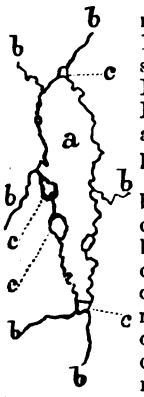


nuclei of the fibre-cells of the muscular coat of the bladder. The fibre-cells themselves are not shown in carmine stainings, but are readily demonstrated in fresh preparations by the action of solutions of osmic acid, or of chloride of gold. Indications of the muscular bands formed by the union of these fibre-cells are, however, seen in the photograph, particularly on each side of the principal venous trunk. The second variety of nuclei are oval, about 1-3000th of an inch long, and belong to the connective tissue of the bladder. The cells in which these nuclei lie are not seen, the action of the carmine being limited to the nuclei. They can, however, readily be demonstrated in fresh preparations by gold-chloride and some other reagents. The cut

* Der Epithelialkrebs. Leipzic, 1865, S. 92.

represents the outlines of a portion of the photograph; a, a, are the nuclei of the vascular epithelium; b, b, the nuclei of the muscular fibre-cells; c, c, those of the connective tissue.

II. Photograph representing a small vein from another portion of the same preparation. Negative No. 195, New Series. Magnified 1,000 diameters by Powell and Lealand's immersion 1-16th objective, illuminated by the Magnesium lamp. One of the epithelial cells near the centre of the vessel is particularly well defined, and shows its nucleus handsomely; the adjacent cells, not lying in the same plane, are many of them partly out of focus, but their boundaries can readily be traced, and the nuclei of several of them are well defined. Four black spots, seen in the course of the vessel, are blood corpuscles much out of focus.



III. Photograph representing the stomata between the epithelial cells of a vein 1-50th of an inch in diameter in the mesentery of the frog. Negative No. 40, New Series. From preparation No. 3,276, Microscopical Section. Magnified 400 diameters by Wales's ⅛th objective. The preparation was made by myself.

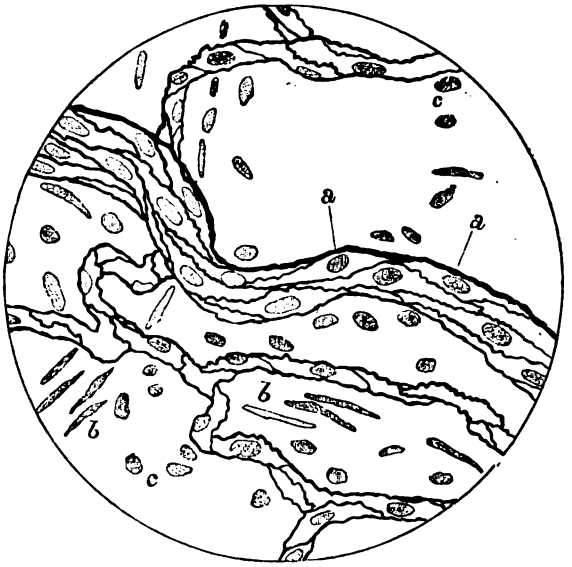
Owing to the curved form of the vein, but a small portion of its surface is in focus. In this portion the silver stained boundaries of several of the epithelial cells of the vein are visible, and display in their course certain remarkable forms, which may be compared to the Wormian bones of the cranial sutures. These are the so-called stomata. They are irregularly rounded in form, and vary from the 1-10,000th to the 1-4000th of an inch in long diameter. Those shown in the photograph present a clear central space, bounded by a sharp, black outline, which is sometimes even thicker than the boundaries of the cells themselves. The nuclei of the epithelial cells are not shown. The cut exhibits one of these cells, a, with portions of the boundaries of adjacent cells, b, b, b, and the stomata, c, c, c.

IV. Photograph representing the stomata between the epithelial cells of a vein, 1-100th of an inch in diameter, in the mesentery of the frog. Negative No. 224, New Series. From preparation No. 3,062. Microscopical Section. Magnified 400 diameters by Wales's ⅛th objective. The preparation was made by Dr. Kennon.

The vein having collapsed, the epithelial cells of the lower wall come into focus in places, and so somewhat complicate the representation. The stomata are abundantly present, but none of them equal in size the largest shown in the last photograph; in several places, moreover, black spots, similar to the other stomata in shape and size, may be observed in the cell boundaries.

V. Photograph representing the stomata of a vein, 1-1000th of an inch in diameter, in the mesentery of the frog. Negative No. 194, New Series. From preparation No. 3,276. Microscopical Section. Magnified 400 diameters by Wales's ⅛th objective, illuminated by the Magnesium lamp. The small vein represented comes well into view, while the nuclei of the surrounding tissue are seen out of focus on each side of it. Several of the stomata present clear centres, while others are black and opaque throughout; they average 1-10000th of an inch in diameter.

VI. Photograph representing a minute artery, with part of the adjoining net-work of capillaries, from the muscular coat of the urinary bladder of the frog. Negative No. 220, New Series. From preparation No. 3,378, Microscopical Section. Magnified 400 diameters by Wales's ⅛th objective. The field is crossed by a small artery, 1-1700th of an inch in diameter. Its epithelial cells are longer in proportion to their width than those of the veins. They average 1-400th of an inch in length, and have nuclei similar to those of the venous epithelium. Wherever the capillaries come into focus the epithelium of their walls is also plainly shown. In the intervascular spaces the nuclei of the muscle and connective tissue appear as in the first photograph. The cut presents an outline of a part of the picture; a, a, are the nuclei of the vascular epithelium; b, b, those of the muscle; c, c, those of the connective tissue.



VII. Photograph representing a portion of the view presented by the last picture. Negative No. 223, New Series. Magnified 1,000 diameters by Powell and Lealand's immersion 1-16th objective. The spindle-shaped forms of the epithelial cells of the arteries and the characters of their nuclei are plainly shown.

VIII. Photograph representing a small artery in the mesentery of the frog. Negative No. 184, New Series. From preparation No. 3,267, Microscopical Section. Magnified 500 diameters by Wales's ⅛th objective, illuminated by the Calcium light. The preparation was made by myself. The artery shown measures 1-280th of an inch in diameter. It is marked by both transverse and longitudinal silver lines. The former are exterior to the latter, as is readily demonstrated in the preparation by the use of the fine adjustment. The longitudinal lines belong to the epithelium, while the transverse markings indicate the boundaries of the circular fibre-cells of the muscular coat, which are usually mapped out in this manner in arteries of moderate size, the silver solution reaching them by imbibition. The epithelial cells of arteries of this size are narrower in proportion to their length than those of smaller twigs, such as that shown in the last two photographs. In the photograph it is somewhat difficult, in many places, to make out their boundaries, as the margins of the cells of the opposite wall come into focus and complicate the appearance. In the study of the original preparation this difficulty is readily overcome by manipulating the fine adjustment. On each side of the artery the numerous nuclei of the surrounding tissue come more or less distinctly into view.

IX. Photograph representing the epithelium of a

capillary, in the muscular coat of the urinary bladder of the frog. Negative No. 216, New Series. From preparation No. 3,378, Microscopical Section. Magnified 1,000 diameters by Powell and Lealand's immersion 1-16th objective, illuminated by the Calcium light. The capillary which crosses the centre of the field measures 1-2300th of an inch in diameter. The epithelial cells are narrower in proportion to their length than those of the veins. Their nuclei are quite similar to those of the venous epithelium.

The foregoing description of individual photographs will serve to give a correct idea of the epithelium lining the small arteries, veins, and capillaries, as shown in a considerable number of preparations preserved in the Museum, and as observed by me many times in tissues extemporaneously prepared. Both Balogh and Feltz would seem to have been singularly unfortunate in their silver stainings, for they describe the appearances produced as irregular and contradictory. Balogh explains the black lines he occasionally saw in the vessels after silver injections as due to the precipitate of silver occurring preferably on folds in the lining membrane, caused by the irregular shrinkage of the vessel produced by the silver injection, an error readily corrected by combining gelatine with the solution of silver injected; the vessels are thus equably and smoothly distended, yet the epithelium appears mapped out as usual.

Feltz asserts that if a solution of silver be allowed to dry in the light on a collodium film, irregular black lines are produced, quite like those observed after its action on organic membranes. I myself have examined the irregular figures produced by this experiment, and cannot conceive how any one accustomed to the precise study of organic forms can see any similarity between them and the definite outlines produced by the action of silver solutions on epithelial surfaces.

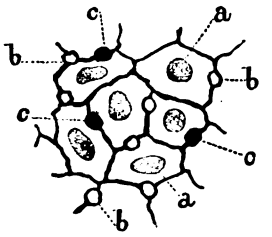
Besides the preparations exhibiting the vascular epithelium which have been described, the Museum possesses, as I have already mentioned, a number in which the epithelium of the skin, of the lymph-sacs of frogs, of the peritonæum and of other surfaces, are mapped out by silver staining, and the reagent is continually employed by myself and my assistants in the investigations of such surfaces. It is impossible for any one who has had such opportunities for observation, to avoid being struck by the fact that the outlines obtained have a definite form and character for each tissue. It is true that the silver staining does not succeed as frequently as carmine staining does, that its use requires more skill, and that failures are more frequent. Sometimes, too much action takes place and everything is obscured by the black precipitate produced; sometimes either because the tissues are not fresh, or the light not sufficient, or from some unexplained reason, the solution does not act at all; but the forms above described as characteristic of the arteries are never observed in the veins, never do the outlines produced on the surface of the skin resemble those seen on the peritonæum, in the lymph-sacs, or in the vessels; each membrane permits only the formation of its own characteristic outlines, never of those belonging to another tissue; moreover, in all cases where it is possible to observe the shape of the epithelial cells without the use of reagents, or to isolate them, the forms thus ascertained correspond precisely with those mapped out by the silver solution, and when, after the action of silver, carmine staining is resorted to, the nuclei thus made visible correspond in position to the places they ought to occupy, if in fact the silver had mapped out the cell-boundaries, as I certainly believe it does. Whether the discoloration is in the cell-wall, or in the cement or matrix by which the adjacent cells are held together, is a more difficult question, and one into which I do not propose to enter at the present time. It is enough for the purposes of this paper that the peripheries of the cells, or the substance just external to them, exhibit a much more speedy and intense reaction with the nitrate than the cell contents do, and must therefore differ more or less from these in composition.

Having arrived at this conclusion with regard to the general interpretation of the action of silver on epithelial surfaces, the question of the true meaning of the so-called stomata next demands consideration. They are to be observed most abundantly, as may be inferred from the photographs described, in veins of moderate size. I have found them largest and most numerous in veins 1-50th of an inch in diameter, or even larger, and they become smaller and rarer in smaller branches. They are comparatively infrequent in the capillaries and still more so in the small arteries; the Museum, however, possesses preparations showing them in both. I have moreover concluded from my own observations that in number and size they vary in vessels of the same dimensions in different parts of the body. Thus, for example, in the veins of the mesentery of the frog they are larger and more abundant than in veins of the like dimensions in the urinary bladder of the same animal.

In figure they are rounded, oval or oblong. I have measured them as large as 1-4000th of an inch in diameter, but smaller ones 1-5000th to 1-6000th of an inch are more common, and the smallest and most frequent do not exceed 1-10,000th of an inch. Sometimes they present clear centres sharply mapped out by black boundaries, sometimes forms of the same size and character are opaque and black throughout, and this has been interpreted as due to variations in the composition of the fluid by which the opening is occupied, which sometimes precipitates the silver solution while at other times it does not, and the action is limited to the solid margins of the pore. They are almost invariably found in the marginal line between adjacent epithelial cells, and the rare cases in which I have observed them apparently in the cells themselves, are probably to be explained by the adjacent margins having from some cause escaped the influence of the silver salt. From my study of these peculiar inter-cellular forms, I am inclined to regard with favor the opinion that they are actual openings in the epithelial layer. It may aid others in arriving at a conclusion on the subject, if I here present a photograph of the stomata in the external epithelium of the skin of the frog through which, as is well known, a rapid transudation of liquid habitually occurs.

X. Photograph representing a silver staining of the external epithelium of the frog's skin. Negative No. 22, New Series. From preparation 3,036, Microscopical Section. Magnified 400 diameters by Wales's ⅛th. The preparation was made by myself. The epithelium of this surface consists of a number of layers, and the silver has penetrated in different portions of the skin to various depths. In the photograph the epithelial cells of the upper surface are sharply mapped out, while the boundaries of the cells of several of the deeper layers are seen out of focus beyond. The cells are hexagonal in shape, and average 1-1300th of an inch in diameter. Many of the nuclei have been somewhat tinted by the silver, a circumstance which is not unfrequent if the silver action is intense. In the boundaries of the epithelial cells may be seen very many little rings, with black margins and clear centres, averaging 1-5000th of an inch in diameter, and also many similar forms, of the

same size and occupying like positions, which are quite black and opaque throughout. In some parts of the preparation from which the photograph was taken, almost all the rings are black and opaque, while in other portions almost all present clear centres. The view which regards these rings as true pores certainly appears to me to require fewer suppositions than any other. The cut represents an outline of a portion of this photograph; a, a, the nuclei of the epithelial cells; b, b, the stomata; c, c, stomata which have become black and opaque throughout. It has been urged, however, by Balogh, that even if the stomata described in the vascular epithelium are admitted as such, they are not large enough to permit the passage of the white blood corpuscles, which, as is well known, average about 1-3000th of an inch in diameter. But even if we discard the supposition that the pores may be stretched open and made larger by the distended condition of the vessels of inflamed parts, there appears to me no difficulty in understanding how a white corpuscle might pass through the smallest of the stomata I have described. An opening 1-10,000th of an inch in diameter is only a little less than one-third the average diameter of the white corpuscles, and any one who has seen the extraordinary modifications of form which the e little masses of protoplasm undergo in the course of their so-called "amœboid movements," would readily credit their capability of passing through such apertures. As the amœboid movement does not occur in the white corpuscles while rolled along in the torrent of the circulation, but only when the movement of the blood is arrested more or less completely, the fact that large numbers of white corpuscles do not habitually pass through the vascular walls into the tissues will not militate against the notion of patulous orifices. That a passage of the white blood corpuscles through the vascular walls does actually occur, is shown by the next picture.



XI. Photograph representing white corpuscles in various phases of the amœboid movement, in the external coat of a small vein of the muscular coat of the stomach of a mare. Negative No. 46, New Series. From preparation No. 3,382, Microscopical Section. Magnified 400 diameters by Wales's ⅛th objective. The preparation was made by Dr. E. M. Schæffer.

This preparation is one of a number of sections made from the stomach of a mare dead of gastro-enteritis. In these sections, which are stained with carmine and mounted in Canada balsam after the method described in the early portion of this paper, it was found that many of the small veins of the sub-peritoneal connective tissue and of the muscular coat were surrounded by white corpuscles fixed in all stages of the amœboid movement. In a number of places where the sections pass transversely through the veins, the white corpuscles can be observed in the interior of the vein, and in the vascular walls as well as in the adjacent tissue. The series of preparations gives a satisfactory demonstration of the wandering of the white corpuscles. I have made efforts to preserve the frog's mesentery permanently, in a number of the cases in which I have observed the same process in that membrane, but hitherto without success.

It will be seen from the foregoing details that, so far as the structure of the vascular walls and the passage of the white corpuscles through them are concerned, the facts appear to be on the side of Cohnheim. How then with regard to the doctrine of inflammation which he builds upon these facts and upon his corneal studies? Does the creeping out of the white corpuscles constitute the essence of the inflammatory process? Do these little movable masses of living protoplasm furnish the germs for the elements of new formations? Have pus corpuscles no other origin? Are the processes which go on in the cells of the inflamed tissue purely passive, mere phenomena of retrograde metamorphosis?

I find the evidence insufficient as yet to afford satisfactory answers to such questions. The observations made by Cohnheim on the connective tissue corpuscles of the tongue of the frog are not conclusive in themselves, and Stricker's studies on the same subject* show the necessity of further labor in this direction before the possible multiplication of these elements in inflammation can be denied. As to the doctrine that the white corpuscles, after their escape from the blood-vessels, are transformed into the elements of normal or pathological tissues, the facts hitherto brought forward can scarcely be said to do more than raise it to the rank of an ingenious hypothesis. The actual steps of this transformation, if it does occur, have yet to be observed.

In conclusion, I may remark that, as the preparations referred to in this paper form a portion of the Microscopical Collection of the Museum, they can be examined by any professional microscopist who may visit that institution.

The photographs which accompany this paper were prepared by myself in accordance with the method described on former occasions.

I have the honor to be, General, very respectfully, your obedient servant,

J. J. WOODWARD,

Assistant Surgeon and Brevet Lieutenant-Colonel, U. S. Army, in charge of the Record and Pension Division, and of the Medical, Microscopical and Comparative Anatomy Sections of the Army Medical Museum.

THE LAW IN REFERENCE TO THE SALE OF POISONS BY DRUGGISTS.

BY FRANCIS TILLOU, ESQ.,

COUNSELLOR-AT-LAW.

THE sale of poison by druggists is regulated in the State of New York by statute.

By the Revised Statutes, vol. 2, page 649, sec. 23, it is enacted that "Every apothecary, druggist, or other person who shall sell and deliver any arsenic, corrosive sublimate, prussic acid, or any other substance or liquid usually denominated poisonous, without having the word 'poison' written or printed upon a label attached to the phial, box, or parcel in which the same is sold, or who shall sell and deliver any tartar emetic without having the true name thereof written or printed upon a label attached to the phial, box, or parcel containing the same, shall upon conviction be adjudged guilty of a misdemeanor, and shall be punished by a fine not exceeding one hundred dollars."

By an act to regulate the sale of poisons, chapter 442 of the laws of 1860, passed April 16, 1860, it was enacted by the first section of said act, that no person should sell or give any poison or poisonous substance, without recording in a book to

* Studien aus dem Institute für Experimentelle Pathologie in Wien aus dem Jahre 1869. Wien, 1870.

be kept for that purpose, the name of the person receiving said poison, his or her residence (together with the name and residence of some person as witness to such sale), excepting upon the written order or prescription of some regularly authorized practising physician, whose name must be attached to such order. Such book shall be kept open for inspection."

But by an act passed 1862, chapter 273 of the session laws of 1862, the above first section of the act of 1860 was amended by leaving out the requisition for the name of a witness to the sale.

By the second section of the act of 1860, it is further enacted that no person shall sell, give, or dispose of any poison or poisonous substance except upon the order or prescription of a regularly authorized practising physician, without attaching to the phial, box, or parcel containing such poisonous substance a label with the name and residence of such person and the word "poison" all printed upon it with *red ink*, together with the name of such poison written or printed thereon in plain and legible characters.

By the third section of the act of 1860, it was further enacted, "That the above provisions should apply to the following poisonous substances, excepting when sold in wholesale quantities of one pound or over, viz.: arsenic and its various preparations, oxalic acid, corrosive sublimate, chloroform, sugar of lead, tartar emetic, opium and its preparations, oil of bitter almonds, cyanurets of potassium, mercury, silver, and zinc, deadly nightshade, henbane, poison hemlock, prussic acid, aconite and its various preparations, atropia and its salts, cantharides, croton oil, daturia and its salts, delphinea and its salts, digitalis and its preparatious, nux vomica and its preparations, elaterium, ergot and its preparations, veratria and its salts, cannabis and its preparations."

But by the amendatory act of 1862 this third section of the act of 1860 was repealed.

By the fourth section of said act of 1860, it is enacted that any person infringing any of the provisions of said act shall, upon conviction, be deemed guilty of a misdemeanor, and shall be punished by a fine not exceeding fifty dollars.

By the fifth section of said act of 1860, it is further enacted that said act shall *only* apply to incorporated cities and villages having a population of one thousand inhabitants and upwards in this State.

By chapter 478 of the laws of 1869, an act regulating the preparation of medical prescriptions was passed May 1, 1869.

By the first section of this act of 1869, it is enacted that no person employed or in attendance at any drug store or apothecary shop shall prepare a medical prescription, unless he has served two years' apprenticeship in a drug store, or is a graduate of a medical college or a college of pharmacy, except under the direct supervision of some person possessing some one of the before-mentioned qualifications; nor shall any one having permanent charge as proprietor or otherwise of any store at which drugs are sold by retail, or at which medical prescriptions are put up for sale or use, permit the putting up or preparation thereof therein by any person, unless such person has served two years as apprentice in a retail drug store, or is a graduate of a medical college or a college of pharmacy.

And by the second section of the same act, it is provided that any person violating the provisions of said act shall be guilty of a misdemeanor, and shall be punished by a fine not exceeding one hundred dollars, or by imprisonment not to exceed six months in the county jail; and in case of death ensuing from such violation, the person offending shall be deemed guilty of a felony, and be punished by a fine not less than one thousand dollars, nor more than five thousand dollars, or by imprisonment in State prison for a term of not less than two years, nor more than four years, or by both fine and imprisonment, in the discretion of the court.

By statute every man who by his culpable negligence causes the death of another, although without any intent to kill, is guilty of manslaughter. (2 R. S. 662, sec. 19.)

The foregoing seem to be all the existing statutory provisions on the subject.

A druggist who negligently sells a poison, labelled as a harmless drug, and thereby causes the death of a person to whom it is administered, is guilty of manslaughter.

So highly does the law value human life that it admits of no justification wherever life has been lost, and the carelessness or negligence of one person has contributed to the death of another.

And this rule applies not only when the death of one is occasioned by the negligent act of another, but where it is caused by the negligent omission of a duty to that other.

Besides the penalties imposed by statute, there is also a common law liability of the druggist for damages sustained by his negligence.

All persons who deal with deadly poisons are held to a strict accountability for their use.

The highest degree of care known amongst practical men must be used to prevent injury from the use of such poisons.

And one who sells poison labelled as an innocent drug is liable in damages to any person injured thereby, no matter through how many hands it may have passed.

A druggist is undoubtedly held to a special degree of responsibility for the erroneous use of poisons corresponding with his superior knowledge of the business.

Affixing a false label to a poison, and sending it into market in that condition so as thereby to mislead others and endanger human life, is an unlawful act for which the party guilty of the act is responsible, whether he did it wilfully or negligently, and to entitle the aggrieved party to his action in such case no privity is necessary except such as is created by the unlawful act and consequential injury. Privity of contract in such case is out of the question. For a duty violated by a druggist giving a false label is a duty not created by contract, but by law, every one being under an obligation to abstain from acts tending naturally and probably to endanger human life.

The injury is not rendered too remote to sustain a recovery because separated from the unlawful act by intervening events, however numerous or of whatever kind, provided they are the natural and probable consequences of the act.

And when the unlawful act is in its nature likely to produce the events which follow, as, for instance, a patient taking a poison instead of some harmless or different prescription than that intended, by reason of a false label of a druggist, the author of it may be treated as having caused the succeeding events, though they consisted of the acts of third persons. For the false label is a continuing authority or direction by the druggist for the use of the poison, and he is bound to indemnify against the acts which it was likely to cause when sold in that condition.

The foregoing propositions seem to be fully sustained by the case of Thomas *vs.* Winchester, in the Court of Appeals.

That was an action brought to recover damages for negligently putting up, labelling, and selling as and for

the "Extract of Dandelion" a jar of the "Extract of Belladonna," by means of which the plaintiff's wife, Mrs. Thomas, being sick, a dose of dandelion was prescribed by a physician, and a portion of the contents of the jar of belladonna was administered as and for the extract of dandelion, &c.

The facts of the case, briefly, were as follows:—

The defendant, Winchester, was engaged at 108 John street, New York, in the manufacture and sale of certain vegetable extracts for medicinal purposes, and in the purchase and sale of others.

The extracts manufactured by him were put up in jars for sale, and those he purchased were put up by him in like manner.

The jars containing extracts manufactured by himself, and those containing extracts purchased by him from others, were labelled alike—both were labelled as "prepared by A. Gilbert," a person in the employ of defendant.

The jar in question was labelled "½ *lb. Dandelion, prepared by A. Gilbert, No.* 108 *John st., N. Y.;*" and in fact contained belladonna, and not dandelion.

The jar was sold by defendant to a wholesale druggist in New York, as and for the extract of dandelion. Dr. Foord, a physician and druggist at Cazenovia, Madison county, N. Y., purchased the article from the New York druggist, as and for the extract of dandelion.

Mrs. Thomas being ill, her physician prescribed a dose of dandelion. Her husband purchased what was believed to be the medicine prescribed, at the store of Dr. Foord. The medicine was taken from the jar in question and administered to Mrs. Thomas, who was thereby made dangerously ill, and the action was brought against Winchester and Gilbert to recover damages.

It appeared that the extract in the jar in question was not manufactured by defendant himself, but was purchased by him from another manufacturer or dealer, but labelled with Gilbert's labels, which labels were paid for by Winchester, and used in his business with his knowledge and assent.

It was objected, among other questions, that the action could not be sustained, as the defendant was the remote vendor of the article in question, and there was no connection, transaction, or privity between defendant and the plaintiff.

A verdict was rendered against the defendant Winchester; the defendant Gilbert being acquitted by the direction of the Court.

The defendant Winchester appealed to Court of Appeals, and it was there held that a dealer in drugs and medicines, who carelessly labels a deadly poison as a harmless medicine, and sends it so labelled into market, is liable *to all persons* who, without fault on their part, are injured by using it as such medicine in consequence of the false label. That the liability of the dealer, in such case, arises not out of any contract or direct privity between him and the person injured, but out of the duty which the law imposes upon him to avoid acts in their nature dangerous to the lives of others. He is liable, therefore, though the poisonous drug with such label may have passed through many intermediate sales before it reaches the hands of the person injured. That where such negligent act is done by an agent, the principal is liable for the injury caused thereby.

Although the defendant Gilbert was acquitted by the jury under direction of the Court, and judgment rendered against the defendant Winchester alone for damages, Judge Ruggles, in delivering the opinion of the Court of Appeals, said that "Gilbert, the defendant's agent, would have been punishable for manslaughter, if Mrs. Thomas had died in consequence of taking the falsely labelled medicine."

2 R. S., 662, § 17.
Tessymond's Case.
1 Lewin's Crown Cases, 169.
Regina *vs.* Swindall.
2 Car. & Ker., 232.

"Although the defendant Winchester may not be answerable criminally for the negligence of his agent, there can be no doubt of his liability in a civil action, in which the act of the agent is to be regarded as the act of the principal."

See the case fully reported in 6 New York (2 Selden) Reports, page 397, and the numerous authorities there cited and referred to.

The law regulating the sale of poison by druggists might be amended in this respect:—

Druggists should be required, in addition to the label of poison and the name of the poison, to name also the antidote to such poison, and give brief directions for administering the antidote. This should be printed or written plainly and legibly, so that in cases of poison being taken by accident or design, an antidote could be quickly administered without the delay of getting a physician; and no doubt many lives could thereby be saved.

The law of 1860 seems to be defective in limiting its application to incorporated cities and villages having a population of one thousand inhabitants and upwards.

It might with advantage be made general in its application throughout the State.

NEW YORK, Sept. 1, 1870.

Original Lectures.

THE PRACTICAL VALUE OF CERTAIN NEW TESTS FOR ALBUMEN.

Read before the New York Medical Journal Association.

BY WM. B. LEWIS, M.D.,

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IT is an observation not uncommonly made that there are fashions in medicine as well as in dress. May it not be stated with equal truth that, especially in the experimental departments of our profession, discoveries are frequently made and quoted as new which really are venerable with years? We would not too severely criticise such reappearances of old truths, if truths they are, since each has its mission as a refresher to the memories of the better informed.

But there is another class of periodical revelations which is less to be tolerated; which can only be safely launched upon the profession when there is some one at hand to detect the error and refute it as publicly as it was announced. While we would be patient with the hasty experimenter who doubtless has intended well, we cannot be too earnest in our condemnation of the fault which insufficient reading or observation has led him to commit. The young, the unwary, and the over-busy of our ranks are likely to be led astray, to their own serious detriment, and at the cost of the happiness of some with whose care they may be intrusted.

The particular class of startling and valuable "discoveries" to which attention is just now invited is that of tests for albumen and blood extractives as those substances appear in the urine.

Since the early days of the year 1869 our mental

vision has been blinded, and our confidence in old methods disturbed, by the sudden coruscation of at least four such meteoric announcements from abroad, and another which has been repeated at second-hand in our midst.

These are found: I. In an article by Dr. Owen Rees, F.R.S., on the Early Indications of Nephritic Irritation.

II. In the paper by Dr. C. Méhu, on a Process Employed in Testing for Albumen, March, 1869.

III. In Remarks upon Prof. A. Flint's paper upon Prognosis in Bright's Diseases, May 3d, 1869.

IV. In the announcement of Dr. C. M. Tidy, M.B., that he had found a far more delicate test than any other method that has been proposed.

V. In a second article by the same author, on a New Test for Albumen, *Lancet*, May 14th, 1870.

In a paper which appeared in Guy's Hospital Reports, 1869, Dr. Owen Rees reminds us that many years ago he called attention to the fact that in Albuminuria, extractives of blood always accompanied albumen, and that at times they appear before the albumen or after its disappearance, or, indeed, without its manifestation in any stage of the case. These extractives, he states, are to be detected by the tincture of galls, the reaction depending upon the precipitation of the impure lactate of soda, of Berzelius.

In cases of ordinary albuminuria it very constantly happens that the extractives continue to escape in considerable quantity when the albumen is about to disappear; so that, far from all being well, a constant and important drain is going on from the blood. This serves to warn us against too early a belief in convalescence.

But, says the Doctor, the habit of testing for extractives as well as for albumen becomes far more valuable in the detection of approaching albuminuria. We are cautioned, however, that we are only entitled to regard the escape of blood material as proving the existence of congestion or inflammation of some portion of the urinary surfaces. General symptoms must indicate the position and character of the lesion.

Sometimes we determine the presence of extractives although albumen is absent, and thus show that the kidney is really suffering from irritation, and we shall rarely be wrong in suspecting calculus, even though general symptoms abate, if we get a persistent reaction with galls. We may predict that albumen, blood, or pus will probably appear, sooner or later.

In cases of Addison's and Hodgkin's diseases, the urine should be examined. In a case of the latter (deposit in the spleen, with enlargement of the lymphatic glands) the urine was found highly charged with blood extractives, though free from albumen. Some days afterward a slight trace of albumen appeared.

We are further reminded that the reaction above noted is that observed to follow immediately on addition of the tincture of galls. Earthy and potash salts are thrown down from all kinds of urine by the alcohol in the tincture, after the lapse of five or ten minutes. Dr. Rees therefore proposes a fluid containing proof spirit and gallic acid, forming a very dark reddish-brown tincture, as a urinary test. If it is capable of accomplishing all that he thinks it is the profession is certainly deeply indebted to him.

Upon trial of this tincture with specimens of morbid urine in which an escape of blood extractives, or at least of minute proportions of albumen, seemed probable, although the usual tests carefully applied failed to detect it, we obtained the following results: In every case the tincture, in the first place, gave the urine a very dark color, and, in the second place, produced immediately a faint degree of turbidity. Here were two conditions calculated to interfere with one another, and render the decision as to the results of the test difficult. This was particularly the case, since the cloudiness, or precipitate, showed no tendency, after standing, to subside and form an appreciable sediment.

If the result were to depend alone upon color-change in a clear fluid, or upon turbidity produced in a previously transparent medium, only a minimum of difficulty would oppose the observer. But the turbidity, itself due to a whitish precipitate, and varying in different cases in amount, necessitates a change of shade in the color of the combined tincture and urine. The color of the urine, moreover, being subject to considerable variation, further complicates the application of this test. Its use by mixture and agitation with the urine proved unsatisfactory, and was abandoned.

Experience has shown that alcohol will cause a precipitate in perfectly normal urine. Dr. Harley * considers the substance thus separated to be allied to peptone. The same material is thrown down by chloroform, as Gigon was the first to show. But Harley considers absolute alcohol superior as a test to chloroform.

These facts, and the further knowledge that tincture of galls was formerly much used as a test, suggested the propriety of searching for the reaction pointed out by Dr. Rees in a series of specimens of normal as well as of abnormal urine.

The number of cases in which the test was applied was thirty-two, not selected, but such as occurred in the routine of business, the majority of specimens having been sent by other practitioners for examination.

Of these cases, twenty-four were males, eight were females, and one is unknown.

Five were in perfectly good health.

Three had more or less debility, without other disease.

Two had oxaluria.

Seven had relapsing fever.

Three had diabetes mellitus.

Two had renal congestion, one of these cystitis also.

Two had evident Bright's disease, one of these the waxy form.

One had hæmaturia and epilepsy.

One had syphilis.

One had alcoholismus, with albuminuria.

One had typhoid fever.

Four suffered from diseases unknown to me.

Albumen could be detected in 10 cases, in proportions varying from a trace to more than $\frac{1}{3}$ the bulk of the portion tested. In the remaining 22 cases heat and nitric acid failed to give any evidence of the presence of albumen. In every one of these cases the tincture of galls gave a cloudy precipitate, in the normal as well as in the morbid specimens.

In each instance undiluted commercial alcohol was added to a second portion of urine, with a view to ascertaining the effect of this reagent upon human urine, and also to see whether the alcohol of the tincture might not serve to explain, in part at least, the reaction obtained with galls. Both reagents were gently poured upon the urine, in an inclined test tube, with a slight, but only a slight admixture. In every case, at the point of contact a narrow whitish cloud appeared, generally wider and more evident when the admixture had been more thorough or extended. In all but two cases the alcohol produced a decidedly more distinct cloud ring or band than the tincture. These were cases of relapsing fever, one of them having $\frac{1}{7}$ albumen in his urine, the other having none.

In the albuminous case the tincture gave a copious

* Harley on Albuminuria. London, 1866, p. 9.

cloud, the alcohol one less marked. In the non-albuminous case the cloud with alcohol was very slight, but quite distinct with the galls.

What now are the conclusions which we deduce from the foregoing statements? Plainly these: 1st, that alcohol will produce a white cloudy precipitate of urinary extractives in all, or nearly all specimens of human urine; 2d, that tincture of galls, both on account of its spirituous and its acid constituents, will behave in a similar manner; 3d, that Dr. Rees was premature in supposing that the reaction which he obtained was possessed of the importance which he attached to it.

To this conclusion Dr. Beale* bears tardy support. In reference to the matter he says: "Healthy urine is scarcely affected by tincture of galls, but this blood-extractive is at once precipitated by it." The "scarcely" grants our point. Healthy urine *is* affected by tincture of galls; and we add that it is affected in the same manner as when the hypothetical "blood-extractives," which we believe to be simply urine-extractives, are present. If there is any difference, it is simply one of degree. The test, then, is valueless. We cannot undertake to form prognoses of a serious nature on such bases. Confessedly the object of searching for or announcing such a test is that of supplying a means more delicate or far-reaching than that which we possess already for the detection of disease. The failure is evident if persons in robust health, and as in our cases not taken sick in any manner after the lapse of at least four months, supply the same reaction as those seriously, nay fatally, ill.

The II., IV., and V. new tests are allied in character, and may be treated of in succession. They have one element in common—carbolic acid. The fashion which prevails in regard to the use of this substance has even caused it to become a urinary test; and a test for albumen. The fact that creasote has the property of coagulating this material is mentioned by Thudichum† and Roberts.‡ The latter moreover states that creasote and carbolic acid are unsuitable for urine testing, because they precipitate also some of the natural constituents of that excretion. If we accept the conclusion of Gigon§ and Harley‖ that peptone, or albuminose, exists in normal urine in small proportion, the evidence against the propriety of applying this reagent in the manner suggested is still stronger, showing, in fact, that we might expect a precipitate in every case in which the test was used.

Robin and Verdeil¶ affirm that not only creasote, but alcohol and tannin precipitate this modified albumen. Nisseron** confirms this statement in relation to creasote and alcohol.

The first of these carbolic acid tests for albumen is that proposed by Dr. C. Méhu, in an article of considerable length in the *Archives Générales de Médecine*, March, 1869. The author treats of the various tests for albumen which have been in use hitherto, and adds an account of the composition and modes of application of this which he calls the "Phenic Acid" reagent.

He writes: "The power possessed by phenic acid, creasote, and many other substances to coagulate albumen has long been known. The study of this property has led us to a process of direct treatment of albumen which we have practised for about 18 months at Necker Hospital.

"Dissolved in three or four times its volume of alcohol, phenic acid coagulates albumen readily; but such a solution precipitates at the same time the greater part of the mineral salts; it has, besides, other inconveniences which render its use impossible. By adding to the alcoholic solution of phenic acid a certain quantity of acetic acid, one need no longer fear the precipitation of salts.

"This is the formula of the reagent:

Phenic acid, crystallized, 1 part by weight.
Commercial acetic acid, 1 part.
Alcohol, at 90°, 2 parts.

"This solution may be kept an indefinite length of time without any alteration. Ten cubic centimetres thrown into non-albuminous urine, or into water, dissolve completely, and the liquid remains clear.

"In order to treat the albumen of urine, take 100 grammes of this liquid, add to them 2 cubic centimetres of commercial nitric acid, stir well with a glass rod, then add, by means of a pipette, ten cubic centimetres of the phenic solution.

"In fresh urine not albuminous, the reagent precipitates a little mucus; therefore it is necessary to work upon urine filtered after slight acidification by acetic acid."

Our experience indicates that the results obtained by this method are not so valuable as its author considers them.

We have already alluded to the facts that alcohol, and carbolic, phenylic, or phenic acid, are capable of producing a precipitate in all human urines.

With regard to the third ingredient, acetic acid, we remember that Reissner* showed that this acid, with heat, precipitates mucine in flocks. Experiment has proved to us that the action of the heat in this case is simply to hasten a process which will take place eventually in every specimen without heat.

Thus all of the ingredients of Méhu's test are capable of precipitating some one or more of the urinary constituents. We do not know how much the action of the acetic acid may be hastened by its combination with the other ingredients.

So much for the probabilities in the case. To ascertain the actual value of the reagent, it was applied in each of the thirty-two cases before mentioned, and indeed in several others not noted.

The test tubes were filled to one-third or one-half of their capacity with the urine. They were then much inclined, and the reagent slowly and gently poured upon the surface with as little admixture as possible. The tube was then brought to the perpendicular position. The more or less yellow urine was now seen to be very easily distinguished from the perfectly white and transparent reagent above. Gentle agitation secured a slight admixture of the two at the line of contact; and in every case an easily recognizable white cloud ring was seen to be produced within a few seconds. This precipitate was in some cases of normal urine decidedly faint; in other specimens of highly albuminous urine it was dense and almost solid.

The proposer claims that in unfiltered specimens this coagulation is due to the presence of mucus. In our experiments it appeared as well in carefully filtered specimens, whether acidified or not, as in those which were not so treated. We do not think that the cloud is one of mucus, but of urinary extractives; albuminose, most probably.

The application as explained by Dr. Méhu is so trou-

* Kidney Diseases and Urinary Deposits, 1869, p. 144.
† On the Pathology of the Urine 1858, p. 250.
‡ Urinary and Renal Diseases, 1866, p. 129.
§ Union Méd. de Paris, No. 12, 1858. ‖ Op. citat., p. 9.
¶ Traité de Chimie Anatomique et Physiologique, 1853, vol. III., p. 340.
** De l'Urine, 1869, p. 188.

* Nisseron, op. cit., p. 176.

blesome as to forbid the general use of his test, even if it were otherwise desirable.

Much of this detail we found not only unnecessary, but even less capable of giving the best results than a simpler procedure.

The filtering we omitted in clear and acid urines. The measuring of proportions was found useless; and lastly, the addition of nitric acid to acid and to albuminous specimens was found to interfere with the clearest appreciation of the power of the test.

The IV. and V. of the new tests were proposed by Chas. Meymott Tidy, M.B, joint lecturer on chemistry at the London Hospital.

Both are spoken of as exceedingly sensitive in the detection of albumen.

We are prepared, after careful experiment, to grant that the reagents are both of them very sensitive; but also further to insist that they are useless as applied to the urine, since they throw down precipitates in normal as well as in albuminous specimens.

They are both of them carbolic acid tests, as before stated. The first is formed by a mixture of phenylic with acetic acid. The second by alcohol and carbolic acid.

The first test is prepared and applied as follows: Equal volumes of the two acids are mixed. A little water is then added in a test-tube, to ascertain whether the liquid, after being well shaken, becomes perfectly clear. As a rule, this proportion is about correct; but if the fluid does not become clear, a little more acetic acid is added, and it is tested after each addition, until the desired point is reached.

With a view to testing the value of this suggestion, we resorted to experiment. Four specimens of normal urine were obtained from as many persons in good health. They were carefully filtered through double thicknesses of fine filtering-paper. To sixteen fluid ounces of one of these was added one drop of albumen from a fresh hen's egg. The pipette with which this was done gives 95 drops of this albumen to the fluid drachm, as the average of these experiments. The proportion of albumen, as it is found in the egg, to the urine, in volume, was therefore less than 1 to 12,000.

The urine had an acid reaction, a deep amber color, a specific gravity of 1030, was transparent, and threw down a slight sediment of mucus. It gave no reaction with heat before being treated with albumen, and none others with strong nitric acid than the usual change of color and some effervescence in strongly heated parts of the tube. All four specimens had similar properties, and were similarly treated.

Portions of the urine without albumen, and with the same, were then subjected to Dr. Tidy's tests. The reasons why we resorted to urine rather than to pure water for these purposes were twofold: In the first place, so small a proportion of albumen is insoluble in such an excess of pure water; the salts being dissolved by the water, the albumen appears as one or more flakes, in proportion to the activity with which it is stirred. In the second place, it was desirable to ascertain whether the tests did or did not react with any of the normal urinary constituents. The results were the following:

The mixture of the two acids is heavier than urine, and the latter was consequently poured upon the former. The reagent behaved in the same manner with albuminous and non-albuminous specimens. At the point of contact a white cloudiness appeared of but slight density, but evident. The same effect was more generally produced by thorough admixture of the whole.

In endeavoring to follow accurately this method, it was found impossible to make the mixture of acids perfectly colorless and transparent after the addition of water, which caused them to become milky-white through precipitation of carbolic acid in minute globules.

The test is valueless, therefore, for the same appearances are given in albuminous and non-albuminous urines.

Tidy's second and newest plan is this: "Add to the liquid to be examined, in a test-tube, ten minims of alcohol (I employ it with a specific gravity of 0.805), shake thoroughly but gently, so as to avoid the production of froth. Then drop in the same quantity of carbolic acid and shake very thoroughly. Allow it to stand for a minute; and if the merest trace of albumen is present, distinct flocculi will be seen floating in the liquid. The alcohol and carbolic acid may be kept mixed, although I think it is more delicate when the experiment is made by dropping them in separately."

This test was used with the specimens, above referred to, of slightly albuminous and non-albuminous urine.

The alcohol mixed with portions in a test-tube without apparent change. But upon adding the carbolic acid and agitating freely, very active frothing occurred, and the fluid was left slightly cloudy. This was observed in all specimens. After standing some time, the flocculi mentioned by our author were distinctly to be seen in both albuminous and non-albuminous specimens. These were examined microscopically, and presented similar appearances. They were thin, slightly granular or perfectly hyaline, much corrugated membranous flakes. In one of the non-albuminous specimens undissolved globules of carbolic acid were found adhering to some of these coagula.

We may conclude, therefore, that carbolic acid tests, though very delicate detectors of albumen, are not applicable to the urine, since they precipitate certain constituents normally present in that fluid.

Now all this effort, which we have related, to discover very delicate tests for a very important morbid constituent of urine, naturally excited the inquiry, What is the delicacy of the tests commonly employed?

A few experiments were made to ascertain the proper reply to this question.

A portion of the normal urine containing one-twelve-thousandth of albumen as found in the egg was placed in a clean test-tube, reaching perhaps 3½ to 4 inches from the bottom. The flame of an alcohol lamp was then applied to the *upper portion* of the urine, leaving the lower cold.

After free ebullition had been produced, a clean wet rag was used to remove all traces of carbon from the exterior of the glass. This was done with as little disturbance of the fluid as possible. The tube was then held to the right or the left of the main avenue of light, inclined as much as possible, with the bottom away from the observer, so as to cause a foreshortening of the column of fluid, and hence a heightening of the effect of any change which might appear in either the cold or heated strata, since the transmitted light must come through a longer column of fluid to the eye. In addition to these precautions, it is well to hold the tube before a white surface placed in the shade, having a black patch of paper or paint upon it, which will assist the eye by the contrast, which can be constantly renewed if one but move the tube back and forth from the black to the white surfaces.

While the tube is between the white surface and the eye, the impression made upon the retina by light transmitted through the urine from the black surface is

lost; but this aids in keeping the eye sensitive to delicate variations. We are in the habit of keeping up this to-and-fro movement until certain as to the result in any given case.

Heat thus applied produced a distinct though very delicate cloud of albumen, not removed by dilute nitric acid, but rather increased. The strong acid produced so much color change and effervescence as to obscure the results.

Here, then, is food for reflection! The usual secretion of urine may be computed at from 30 to 60 fluid ounces per diem. If a person loses as much albumen from his blood by way of his kidneys as would be equivalent to from one and one-half minims to three minims of the uncoagulated white of a hen's egg, heat, with proper precautions, will detect the same!

The sensitiveness of the test, in other words, is such, that 1 part in more than 12,000 may be coagulated. Adopting the most careful methods, we were unable to detect albumen by nitric acid, either dilute or pure, until the proportion had been increased to 1 part in 6,000. When urine albuminous to this extent was gently poured upon the strong acid, a faint whitish cloud was seen at or just above the line of contact between the two fluids.

Thus we may conclude that heat is a more sensitive test than nitric acid, and as much so as we really need to have it.

If we are dealing with alkaline urines, we must render them acid; if we have turbid specimens, we must filter and refilter them with double or triple thicknesses of the finest paper, until the salts or vibriones are removed. In fine, we must go out of our way to obtain perfectly fresh specimens for examination.

In conclusion, we must refer to the III. new test which has been proposed to us for the recognition of albumen. It is the cupric-oxide test.

In the discussion following a paper read before the County Med. Society, the following remarks were made:

"A test for albumen, more delicate than those commonly employed, was identical with Trommer's test for sugar. Some specimens of albuminous urine would yield no precipitate with heat or nitric acid; but on treating them with a solution of sulphate of copper and potassa, the supernatant liquid, after the subsidence of the precipitate, would be left of a beautiful and characteristic purple color. The presence of grape (diabetic) sugar did not interfere with this test; so that both sugar and albumen might be tested for at once, the sugar being shown by the cuprous oxide, and the albumen by the purple color."

This test also was applied to the highly dilute solutions of albumen already mentioned. The reaction did not occur with specimens in which nitric acid sufficed to produce a coagulum. In considerably stronger solutions, however, the mauve was finely brought out.

Our most delicate and trustworthy test for albumen as found in the urine, then, is heat.

Next in sensitiveness and equal in importance is nitric acid.

In testing for very slight traces of albumen with heat, it is desirable to use dilute nitric acid.

The cupric-oxide test is at times convenient, but less trustworthy and delicate than the foregoing.

The tannic or gallic acid tests, and those containing carbolic acid and alcohol, are not to be used, since they produce precipitates equally in normal and abnormal specimens.

In fine, we have found ourselves to be already possessed of tests for albumen in every sense better than the new ones which have recently been suggested.

Vaccination in India in 1818.—In an old report on *Vaccination*, made in 1818, by Rev. J. A. Dubois, of India, we extract the following: "I have vaccinated, since my arrival in this country, nearly a lac, or one hundred thousand persons. Not one case has proved fatal, nor a single well authenticated instance, among this large number, of the small-pox recurring after the regular vaccine." He also asserted that the vaccine frequently put a stop to the intermittent fever which prevailed in that country. He knew instances of its curing quartan fever which had continued four or five years.

Thomas Jefferson's Idea of Medical Teaching.—In 1818 Thomas Jefferson, President of the Board of Commissioners for the University of Virginia, in laying out a plan of medical instruction for the University, thus discoursed: "Medicine, where fully taught, is usually subdivided into several professorships; but this cannot well be without the accessory of a hospital, where the student can have the benefit of attending clinical lectures, and of assisting at operations of surgery. With this accessory the seat of our University is not yet prepared. For the present, therefore, we propose but a single professor for both medicine and anatomy."

The Stethoscope First Introduced.—Dr. Laennec physician to the Necker Hospital, Paris, first introduced this useful instrument in the year 1818.

Cheating the Doctor not a new Idea.—In 1715 Sir William Smyth, of Bedfordshire, a relative of Dr. William King, St. Mary Hall, Oxford, when he was near seventy, was wholly deprived of his sight; he was persuaded to be couched by Taylor, the oculist, who, by agreement, was to have sixty guineas if he restored his patient to any degree of sight. Taylor succeeded in his operation, and Sir William was able to read and write without the use of spectacles during the rest of his life; but as soon as the operation was performed, and Sir William perceived the good effects of it, instead of being overjoyed, as any other person would have been, he began to lament the loss (as he called it) of his sixty guineas. His contrivance, therefore, now was, how to cheat the oculist; he pretended that he had only a glimmering, and could see nothing perfectly; for that reason the bandage on his eye was continued a month longer than the usual time; by this means he obliged Taylor to compound the bargain and accept of twenty guineas. Sir William was an old bachelor, and at the time Taylor couched him, had an estate of land valued at one hundred thousand pounds, besides a large sum of money in stocks, and not less than five thousand pounds in his house.—*British Critic.*

Infants Sacrificed in China.—Rev. Mr. Abeel informs us that in the Fuh-kien Province, China, forty per cent. of the female infants are sacrificed by their mothers.

Various Names for Epidemic Cerebro-Spinal Meningitis.—Dr. J. Netten Radcliffe (*Med. News and Library*) publishes the subjoined technical synonyms for this fever: Cerebro-spinal fever (*Royal College of Physicans*); cerebro-spinal arachnitis; typhus syncopalis; tifo apoplettico tetanico; typhus cerebro-spinal (*Boudin*); cerebral typhus; epidemic meningitis (*Stillé, U. S.*); petechial fever (*G. B. Wood, U. S.*); fever with cerebro-spinal meningitis (*S. Gordon*); malignant purpuric fever (*W. Stokes*); malignant purple fever; nervo-purpuric fever (*Mapother*); malignant purpuræ (*M'Swinney*); pestilential purpuræ (*Banks*); febris nigra (*R. D. Lyons*). *Popular names:* Spotted fever (*New England*); cold plague (*Southern States, U. S.*); Kolik, Hackenstarre, Genickkrampf (*Germany*); Nacksjuka, Dragsjuak(*Sweden*).

AMPUTATION AT THE SHOULDER.—W. F. McNutt M. D. (*Cal. Med. Gazette*), thus describes his method of amputation at the shoulder-joint:—On the night of Nov. 23d, 1863, he went on board the steamer "Black Hawk," and found a man whose left arm was so severely injured by a six-pound shell that amputation was necessary. Having no one with him that he could persuade to attempt the compression of the artery, or even to have anything to do in any way with the chloroform, the shoulder was amputated as follows: Chloroforming the patient thoroughly, the knife was passed close by the acromion, gliding it over the humerus to appear at the posterior fold of the axilla, and cutting outwards and downwards, the posterior or external flap was completed. An assistant holding the flap up, he opened the joint, forced the head of the bone outward, and pressed the knife behind it and close to the shaft of the bone. Paymaster Whitehouse then taking the arm, Dr. McN. placed his left hand in the axilla, and, with the palm to the flap, the thumb passing along the back of the knife, he had a firm grasp of what was to be the anterior or internal flap, which of course contained the vessels; then cutting on, he finished the internal flap. Taking up the forceps the arteries were seized and tied. There was scarcely any hemorrhage. As he had no one to keep the patient under chloroform rapidity was a great desideratum. Under the same embarrassing circumstances, he would feel inclined to operate in the same manner, rather than that of Verneil's method, which is now in vogue in France.

THE ORIGIN OF MANNA.—Mr. Daniel Hanbury, F.R.S., at a recent meeting of the Pharmaceutical Society, alluded to the early history of manna, and stated that modern manna is derived from a species of ash cultivated in Calabria and in Sicily. The following points were brought out in the discussion: 1st. That the manna known in Europe in very early times was probably of Oriental origin. 2d. That the manna of the ash began to be collected in Calabria in the first half of the 15th century. 3d. The practice of making incisions in the trees in order to promote the exudation was not commenced until about the middle of the 16th century, previous to which period the only manna obtained was that which exuded spontaneously. 4th. That although the existence in Sicily of a mountain called by the Arabian name, *Gibilmanna*, would seem to indicate that manna was collected during the period of Mussulman rule in the island, evidence has not been produced to prove the fact, but that, on the contrary, it appears that manna was gathered in Calabria long anterior to its collection in Sicily.—*Chemist and Druggist.*

A CASE OF DIAPHRAGMATIC HERNIA.—Dr. Borland, of Boston, Mass. (*The Boston Med. & Surgical Journal*), reported at a late meeting of the *Boston Society for Medical Improvement*, a case of diaphragmatic hernia, and showed the specimen, taken from a man 31 years old. In this case the hernial opening was in the left side of the diaphragm.

Dr. Bowditch says as to the diagnosis, that there were only two recorded instances of the recognition of diaphragmatic hernia—one by Mr. Lawrence, of London, and one case at the Massachusetts General Hospital.

A PATENT MEDICINE MAN TURNS UNDERTAKER.—There is a tide in the affairs of men which, taken at its flood, leads on to fortune. A Massachusetts man, who has for months sold a patent medicine, has just in the nick of time turned undertaker.

SUDDEN DYSPNŒA RELIEVED BY VENESECTION.—Dr. Cheever, of Boston, Mass. (*Boston Med. and Surg. Journal*), was called in haste, in the evening, and found a lady, æt. 35, who, twenty minutes before, was suddenly seized with intense dyspnœa. Ipecac. grs. 120, in successive doses, and mustard ʒ ij in hot water, produced no emesis, nor nausea. Brandy and ammonia were given to sustain the overloaded heart. No amendment followed, and she was apparently about to die, when Dr. C. removed one pint of blood from the arm, believing this procedure the only way to set up *endosmosis*, and turn the tide. The blood was black, and sluggish in running. The first 8oz. produced no effect. Then the pulse began to grow stronger, the breathing easier, and the color better. When the pint had been taken the patient lay down, breathed easily, and the color became florid. She recovered in a few days.

The case bears resemblance to one reported by Dr. Abbot a year ago; and to recent cases narrated by Drs. Cotting and Fifield.

OCULAR TUMORS.—H. Knapp, M.D., of New York, says: "Were I to rely on my own observations, ocular tumors would hardly admit of more than two varieties, viz. *glioma*, originating in the retina; and *sarcoma*, proceeding from the choroid, and being in part unpigmented and in part melanotic."

INDURATION OF THE SPINAL CORD.—J. Netten Radcliffe, M.D. (*Med. News and Library*), in his paper on "Diseases of the Spinal Cord" remarks: Like the opposite condition of softening, induration (sclerosis) of the spinal cord is one of the consequences of myelitis, chronic or acute; of the chronic form more especially. Induration of the cord is generally associated with atrophy—atrophy often more marked in the white matter than in the grey—and with a condition so curiously bloodless that a section is not unlike that of white of egg boiled hard. In its highest degree the cord may have a leather-like or fibro-cartilaginous hardness and consistency. Induration is a much less common change than softening; it has no symptoms by which it can be distinguished from softening; and it is often met with when it was not expected, and under very different circumstances, as after acute myelitis on the one hand, or after long-standing epileptic disease on the other.

PALATABLE FORMULA FOR THE HYDRATE OF CHLORAL.—Hydrate of chloral, ʒ ss., chloroform water, ʒ ij., syrup oranges or tolu, ʒ i-ij., tincture of ginger, 6 to 12 drops, water to one ounce and a half. The *chloroform water* is prepared by dissolving a half fluid ounce of chloroform in one gallon of water. This seems to intensify the action of the chloral hydrate and covers the acrid taste. —*The Rich. and Louisville Med. Journal.*

DOUBLE VAGINA.—J. C. Davis, M.D., Fort Atkinson, Jefferson County, Wis. (*The Chic. Medical Journal*), while examining the external organs of generation of a young lady, aged 21 years, discovered a septum commencing at the mesial line (in a line from right to left), attached to the meatus urinarius, and extending laterally and posteriorly two-thirds of the way to the fourchette, and within the vulva and hymen. The external genital organs were well developed. The mons veneris well covered with hair. The labia majora and minora were perfect. The os uteri was in the right vagina (or vagina proper), which was of normal size, shape, and capacity.

DEATH OF AN OLD LADY.—Mrs. Hannah Fennimore died at Delaware City, Del., August 12th, at the advanced age of one hundred and eight years.

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PRESCRIPTION WRITING.

THERE is hardly anything that bothers a young practitioner more than the proper writing of a prescription. We are indeed convinced that this is so much the case that for the sake of making the recipe he will too often restrict himself to a very few formulæ with which he may be acquainted rather than run the gauntlet of incompatibilities in search of remedies that he is pretty sure would answer his purposes better. And after all he is not so much to blame as we might suppose, inasmuch as he has really had very few if any opportunities for becoming acquainted with this most important of arts. His teacher of materia medica is generally too intent upon the physical properties of the drug, its habitat, mode of preparation for medicinal purposes, etc., to give much of his time to the discussion of its doses, incompatibles, or particular method of administration. A lecture or two is delivered upon prescription writing, in which perhaps the different signs for weight and measurements are given, and the reasons for rendering the ingredient in the genitive case and the quantity in the accusative. Then perhaps a few of the hackneyed Latin directions are translated, and this in most instances completes the plan upon which the beginner is to build his practical knowledge of therapeutics. While most practitioners, thankful even for this start, are willing to master the art, the great majority find it much more convenient to keep in the narrow rut of routine. This would be well enough if such a performance of responsible duties were all that were required of the physician, but unluckily this is not so. John Radcliffe nearly two hundred years ago uttered a truism which holds its own to a certain extent, at least at the present time:—"When I was a young practitioner I knew of twenty remedies for every disease; now (near the conclusion of his life) I know of twenty diseases for which there is not a single remedy." The young medical man is always confident of his few remedies which may be lauded by his medical teacher, and theoretically he cannot see how they should fail in producing remarkable cures. How often, however, is he surprised to find, when actually tested, that they are utterly useless, and this too when the diagnosis of the disease is perfectly correct. It will be oftentimes fortunate indeed for his confidence in the particular and favorite remedy if it can be proven satisfactorily to his own mind that the said drug or salt was impure. When one article fails he is expected to stand ready with another and another, and have a knowledge of its necessary combinations literally on his fingers' ends.

The successful prescriber is the successful practitioner, and the necessities of his situation and surrounding circumstances compel him to be constantly on the look-out for new remedies and new methods for administering them. The opportunities for learning of the new articles are very abundant, but beyond these the practitioner is mostly left to his own ingenuity and resources. No pains seem to be taken by such as may become practically acquainted with the most agreeable vehicles of administration or the most effective combinations to make such information the property of the profession at large. It seems to be generally sufficient for their purposes to state that in such and such an interesting case such and such an article was given with such a result, the particular dose not even being mentioned. If a writer thinks this a matter of minor importance he mistakes very much the necessities of the general class of practitioners. We do not hold it to be generally necessary to state day by day when the patient urinated, when the bowels moved, when he slept, when he turned over, gaped, or snored, but it is certainly in keeping with the requirements of good therapeutics to mention not only the articles used, but the doses and the manner in which they were employed. A good prescription is as much a part of the history of a case as any record of the temperature, pulse-wave, or the respiratory murmurs, and as such should have its due prominence. It was on account of this oversight by many medical writers that for a long time many excellent medicaments were unemployed by the profession, and many manœuvres in their administration were unknown, and consequently unused. Take as an instance hypodermic injections. We can look back to the time when, despite the testimony of a few in their favor, they were seldom attempted for the want of the necessary explicit directions as to the kind of instrument required, its proper use, and the necessary strength of the injection. Again: here is our new remedy, chloral—how few at present have succeeded in accordance with their expectations in its administration, and how many have on account of this really unblamable ignorance been forced to give it up entirely!

The relative doses in which some medicaments are given when in certain combinations are oftentimes so variable, and, as regards effects, so important, that the best plan would seem to be to give the prescription in full. Such a practice by our writers and teachers would not only advance the science of therapeutics by

rendering more exact our knowledge of remedies, but would constantly familiarize the tyro with the most approved method of writing a prescription. What an immense amount of good, in these respects, would it do to the student of medicine if his clinical teacher, when prescribing for patients, would write out in full upon a blackboard the formula used in each case!

So much attention is given to prescription writing abroad, especially in Great Britain, that it forms a regular part of the medical education of a student, and the examination into his practical qualifications as a prescriber is as rigid as on any other branch. We should be afraid to state how few of our candidates for graduation could pass such an examination. Again:—much more attention is given to methods of prescribing abroad than with us. Medical authors, of Great Britain especially, are in the commendable habit of publishing their favorite recipes as an appendix to their works, a practice almost entirely ignored here. In fact, we can point to but two or three works on general medicine, by American authors, in which such a plan is adopted at all.

We hope to see some reaction in this particular, that it may not be said that prescription writing has become with us a lost art.

Among the curious things to notice regarding Army Medical service in the Franco-Prussian campaign is the protest on the part of the French Minister against the employment of American Surgeons by the Prussian army. If one country sees fit to bring to the aid of its wounded the best skill it can obtain, it shows an enlightenment so much above censure that a failure to do likewise on the part of the protesting party gives rise to uncomplimentary reflections. Surgeons have always been considered non-combatants, and there is wanting proof to show that they have not always been true to the cause they have espoused, and have not been alike ready to help friend or foe.

Reviews and Notices of Books.

The Practice of Medicine. By Thomas Hawkes Tanner, M.D., F.L.S., Member Royal College of Physicians, etc. Fifth American, from sixth London Edition. Enlarged and thoroughly revised. Philadelphia: Lindsay & Blakiston. 1870. 8vo, pp. 1200, cloth.

Dr. Tanner's Practice of Medicine has some features which are peculiar as compared with others now before the public. Grown as it has from a handbook to a volume of twelve hundred pages, it has lost nothing of the terseness of the former, added to which are descriptions of many diseases and their treatment not usually found even in a volume of this size. As an encyclopædia of the practice of medicine it serves its purpose well. But what we gain in variety we occasionally lose in fulness of delineation and thoroughness of detail. This truth is manifest in the description of some of the more common and interesting diseases which the practitioner is called on to treat. As a work of reference for the physician in an emergency, or for one who has not much time for reading, it will answer the aim of its talented and studious author. As a complete treatise, however, it is not so well adapted to the American practitioner as many others by our own medical writers. This is particularly the case with many of the formulæ in the Appendix, prepared as they are according to the British pharmacopœia. His remarks on the mineral springs and climates for invalids, while they are necessarily of immense value to our transatlantic confrères, are not of much account to us here, surrounded as we are by springs of almost every character and with a diversity of climate which is likely to suit the requirements of almost all invalids. We cannot help concluding that the American edition could have been much enriched by a judicious medical editor who could adapt it to the real wants of the American physician. It is supplied with a copious index, and is well printed and handsomely got up.

As Regards Protoplasm, in relation to Professor Huxley's Essay on the Physical Basis of Life. By James H. Sterling, F.R.C.S. and LL.D. Charles C. Chatfield & Co., New Haven, Conn., 1870.

This is the third number of the University series, and contains by far the best and ablest reply that has yet been made to Huxley's well-known essay on protoplasm. All who have read the latter should by all means make themselves familiar with Sterling's arguments on the opposite side.

Correspondence.

THE THERAPEUTIC USES AND ABUSES OF QUININE AND ITS SALTS.

A LETTER FROM

PROF. ROBERTS BARTHOLOW.

To the Editor of the Medical Record.

Sir—In your journal of August 1 (p. 262), Dr. Stephen Rogers appears in a letter on "The Hypodermic Use of Quinine," in which he refers to some opinions of mine as published in the Russell prize essay. Also, in *Vol. 20 of The Transactions of the American Medical Association*, I find an elaborate paper by Dr. Rogers "On the Prophylactic and the Therapeutic Uses and Abuses of Quinine and its Salts," in which he is at much pains to set forth and to animadvert on my views on the subject. I am bound to say that his frequent references to me are often offensive in tone, and are, apparently, intended not so much to vindicate the truth as to air some private grievance. Indeed, in his paper in the Transactions of the American Medical Association (p. 187), he alludes to a "provocation to which this edition [of his paper] is indebted for its preparation." I beg to say that Dr. Rogers has had no "provocation" from me, yet his persistent attacks will incline the medical profession to think that I have been so unfortunate as to give him ground of offence. I can, however, affirm that I have alluded to Dr. Rogers' writings but in one instance, and then in decidedly complimentary expressions. Under these circumstances, it seems only proper that Dr. Rogers should state the nature of the "provocation" to which he has been subjected, and not deal in vague allusions which cause innocent parties to be suspected of some enormity, and confuse rather than enlighten the public.

But to pass from this merely personal matter to the scientific side of the controversy:

In his haste to "disagree in toto" with Dr. Bartholow, Dr. Rogers is betrayed into some inconsistencies.

Thus (Volume 20, Trans., p. 192) he remarks as follows:

"If the salts of quinia are antidotes to miasmatic poison, and *I do not doubt that they are*," etc. (Italics mine.)

Notwithstanding this positive statement in his text, I find him saying in a foot-note (p. 211 Trans. *supra*):

"From the views heretofore expressed as to the therapeutic *modus operandi* of quinia upon miasmatic disease, the reader will be prepared to hear that I totally disagree with Dr. Bartholow in the declaration that 'it can neutralize or destroy very perfectly the morbific matter.'"

A significant instance of the difference struck, in some minds, between *tweedle-dum* and *tweedle-dee*.

In the same foot-note just above quoted Dr. Rogers utters some extraordinary opinions which indicate that his knowledge of malarial diseases is entirely clinical, that he has not pursued any *post-mortem* researches, and that he has not taken the trouble to inform himself in the present state of scientific opinion in regard to the changes induced by malaria in the organism. Let me quote his own language to prove these charges which I bring specifically against him:—

"It is quite gratuitous to suppose, as does Dr. Bartholow, that because paroxysms 'recur from time to time' it is on account of structural changes in the organs of the body, especially of the liver and spleen. This, in my opinion, is pure speculation, totally undemonstrable, and not in any sense 'a fundamental fact' as he declares." (Foot-note, p. 211 Trans.)

I respectfully suggest to Dr. Rogers that he read without delay Trousseau's description (*Clinique Médicale de L'Hotel Dieu*, vol. iii., p. 418) of the *diathèse palustre*, and he will ascertain how far my statements are "pure speculation." In a foot-note in another place, he refers disapprovingly to my distinction between simple engorgement of the spleen, which occurs in every ague paroxysm, and that "fleshy condition" of the organ developed in the course of chronic malarial poisoning. If he will take the trouble to refer to Niemeyer (Am. Edition, vol. i., p. 712) he will find in a few sentences an admirable description of the "fleshy spleen." For proof that, in recent cases of malarial fever, the spleen is engorged, let him examine any text-book on practice. So far, then, from my views on the relation of the structural alterations to the objective phenomena of fever in malarial disease being "pure speculation," they are supported by the highest authorities. That my opinions cannot receive the approval of Dr. Rogers is evident not only in the foregoing, but in many subsequent statements. Even when our opinions are the same, he sometimes discerns a difference, as, for example, in a foot-note on page 205 of the Transactions. In this he refers to the "mathematical and summary way" in which "Dr. Bartholow disposes of this matter of the time and quantity of quinia," and yet, in his letter to the RECORD, he assigns, in a way quite as mathematical and summary, about the same quantity of quinia for the treatment of an intermittent as I had indicated in my essay.

Dr. Rogers is much exercised on the subject of my views as to the proper period for the administration of quinia. I remark in my essay on this point as follows:—

"If time is an element of importance, no delay is necessary in order to give the remedy in the stage of apyrexia.

"To save the suffering and exhaustion of the febrile movement the attack should be anticipated, and, if possible, prevented.

"As the maximum effect of the quinine is attained in about five hours after being taken, it should be administered this period of time at least before the expected paroxysm.

"As the elimination of quinine takes place with considerable rapidity (see *post*), the maximum curative effect is obtained by the administration of the whole amount required in a single dose, rather than by a succession of small doses."—(*Medical Communications of the Conn. Med. Society for* 1868, p. 102.)

These observations Dr. Rogers criticises in a foot-note (p. 206, Trans.) as follows:—

"Both physiological experiment and properly conducted clinical observations definitely establish the fact, that no medicinal quantity of quinia will exert a controlling influence on the economy against paroxysms of miasmatic fever for a longer time than about twelve hours. Therefore, if ten or twenty grains of quinia are taken in the sweating stage of a quotidian ague to-day, the daily paroxysm will, as a rule, return to-morrow, the cases in which such return is not observed being quite the exception. This I have demonstrated in thousands of cases. I disagree, therefore, with Dr. Bartholow in toto upon this point." Yet Dr. Rogers has no doubt as respects the antidotal power of quinia! I will, however, quote against this enormous experience, a paragraph from the work of the ablest clinician in the United States—Prof. Austin Flint.

"With respect to the time of giving the antiperiodic remedy, my experience has led me to the conclusion at which Bretonneau, Graves, Briquet, Trousseau, Murchison, and others have arrived, viz., that it proves most effective when given as near as possible to the paroxysm which has passed. It is probable that, if it be given in the sweating stage, the chances of preventing the next paroxysm are greater than if the administration be delayed until after this stage. As regards dose, the most effective plan is to give the remedy so as to produce cinchonism as speedily as possible."

It appears, then, that Dr. Rogers not only "disagrees in toto" with Dr. Bartholow, but also with the most eminent authorities. He should review his experience with those "thousands of cases."

On page 218 (Trans.) Dr. Rogers alludes to the use of quinia in erysipelas, and again refers to me in a foot-note in the following terms:—

"Dr. Bartholow seems not to have been acquainted with this important power of quinia, at least he does not allude to it."

As Dr. Rogers has taken so much pains to depreciate my clinical and experimental investigations on the actions and uses of quinia, I must call his attention to the remarkable manner in which my conclusions have been confirmed by a different method of inquiry pursued in another part of the world. Let me quote my observations:—

"*Acute Inflammations.*—The authorities agree as to the impropriety of using quinine during the acute stage of the inflammatory process. There are two conditions, however, in which, according to my experience, it is often exceedingly useful: the stage of congestion, or the formative stage of an acute inflammation; and the stage of resolution. . . So, also, idiopathic pleuritis, pericarditis, and peritonitis, may be rendered much more manageable, if not entirely cut short, by a large dose of quinia, given in the very incipiency of these diseases; but it is necessary, in order to achieve so successful a result, that the stage of effusion or exudation be not reached." I indicate on the same page a number of diseases in which it may be thus used with advantage, but conclude that "quinine ceases to be useful when alterations of structure or exudations have taken place."

In his remarkable researches on quinia, Binz (*Grundzüge der Arzneimittellehre*, Berlin, 1869, p. 75) has shown that this antiphlogistic effect is due to the action of quinia on the white corpuscles, the amœbiform movements of which it checks. Martin, in his inaugural dissertation (*Das Chinin als Antiphlogisticum*), has confirmed Binz's researches and added to them important observations of his own, showing that quinia arrests the migration of the white corpuscles, and acts as an antiphlogistic by its influence upon those processes resulting in suppuration.

I pass from this topic to the subject of the hypodermic administration of quinia, on my views in regard to which Dr. Rogers animadverts with some severity. He takes as his text a fatal case of tetanus, which followed the hypodermic use of quinia. An isolated case like this proves nothing. Tetanus has followed in some subjects the most trivial injuries, as, for instance, the puncture of a sewing-needle. According to Dr. Rogers' system of logic we should argue—the puncture of a needle having caused tetanus, needles should no more be used. He applied the same method to that other occasional accident of the hypodermic injection of quinia, the formation of abscesses. One would suppose from Dr. Rogers' statements that accidents from the internal use of quinine were unknown.

But I have a more serious quarrel with Dr. Rogers about the manner in which he quotes from my essay, to convey incorrect impressions in regard to my opinions. He has done this in quoting a portion of my remarks on the physiological effects of quinine hypodermically administered. My statement was as follows:

"It is a remarkable fact, confirming the doctrine of a specific action of quinia which is irrespective of its physiological effects, that the cure of malarious disease by subcutaneous injection is not *necessarily* accompanied by any evidence that can be recognized of an impression upon the nervous centres. The cure *may* be accomplished without any disturbance of the vascular system, without any alteration of the normal thermal line, and without any disorder of the cerebral functions."

Now, Dr. Rogers quotes only the last sentence to place my views in antagonism to those of the Committee of the Medico-Chirurgical Society. My meaning evidently is this: so small is the quantity which may be required to cure an intermittent, when the agent is injected under the skin, that physiological effects are not necessarily produced; in other words, that a curative effect may be reached without any appreciable change in the pulse, respiration, and temperature. I do not stand alone in this opinion. Dr. Chasseaud, who has had the most extensive opportunities for observation in the hospital at Smyrna, comes to the same conclusion; but Dr. Rogers, who admits that he has had no experience with the method, comes to the opposite conclusion. I must beg leave to say, in this connection, that the utility and efficiency of the hypodermic method of using quinia are too well established to be set aside on the *dicta* of Dr. Rogers. I hence pass from this to the only remaining topic which I purpose now to discuss, viz., the introduction of quinia *per rectum*. I cannot fail to note here some extraordinary language used by Dr. Rogers on this topic. In a foot-note to his paper in the Transactions (p. 233) he expresses surprise "that the fact should have escaped the attention of a man of Dr. Bartholow's intelligence and habits of observation that the *rectum is not a digestive organ*" (Italics Dr. Rogers'), and in his letter he states that I have "ignored this fact." This is a perfectly gratuitous observation on the part of Dr. Rogers, and is in no sense an argument. In my essay I have stated that when quinine is required in continued fevers it is better given by the rectum in suppository or clyster, to avoid the irritant effects of the agent on the gastro-intestinal mucous membrane. This remark gives occasion for his statement that I have "ignored the fact that the *rectum is not a digestive organ!*" According to Dr. Rogers' view, quinia in solution in water is better absorbed, and "quinine suppositories and quinine clysters, made with either pure water or some emulsive fluid, requiring digestion and solution, are more or less slowly and partially appropriated." Another exhibition of the remarkable difference between *tweedle-dum* and *tweedle-dee!*

Dr. Rogers "disagrees" with me also in regard to the quantum of physiological effect produced by quinia when given by the stomach and rectum respectively. It is true that some authors think the rectum takes up quinia as rapidly as the stomach, but it is generally conceded that as an absorbing surface the rectal mucous membrane is greatly inferior to the stomach. Trousseau et Pidoux, whom Dr. Rogers quotes from Stillé, say that quinia given in *lavement* may perhaps be somewhat less in quantity than when prescribed in *potion*, and this because absorption takes place better and more rapidly in the large intestine than in the stomach (*Huitième Edition, par C. Paul.* Tome Second Paris, 1869, p. 506). But this observation is not in accordance with generally accepted views, and will not, I am persuaded, be confirmed by those who make the trial.

ROBERTS BARTHOLOW.
27 WEST 8TH ST., CINCINNATI, Ohio.

TREATMENT OF DELIRIUM TREMENS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR—It has been incontestably shown that alcohol, when introduced into the animal economy, produces effects analogous to those of a poison; that is, it "acts in a noxious manner on the vital properties or textures of organs." By its operation the tissues are corrugated, albumen is coagulated, and the solidifiability of fibrine is impaired. Mucous membranes suffer irritation from its presence, and a state of actual inflammation may supervene upon its protracted use. Alcohol absorbed into the blood interferes with its proper aëration by the abstraction of its oxygen, and the impure blood, thus unfitted to subserve the wants of nature, tends to the production of functional disturbances, or may react, through the medium of the medulla oblongata, upon the nerves of respiration, and occasion death from asphyxia, as is the case in narcotic poisoning by other narcotic substances. (Carpenter.) General disorder of the powers of assimilation and a condition of greatly disturbed innervation are prominent features in all habitual drunkards, and the same deranged nutrition giving rise to those phenomena has its culmination in delirium tremens. In this disease, whether occurring in the midst of a debauch or after the suspension of the accustomed stimulus, the train of symptoms is always virtually the same. Debility, constipation, gastric irritability, preternatural vigilance, and various hallucinations, are its well known characteristics, and their proper management, I am confident, rests entirely upon the fulfilment of two indications, namely, the procurement of sleep, and the establishment of nutrition. Much that is absurd and hurtful has been written about, and practised in the treatment of, delirium tremens, but happily the disease is now sufficiently well understood to admit of a rational adaptation of means to ends.

The use of digitalis, tartar emetic, and the further saturation of the system with alcohol, as recommended by some writers, are measures calculated to do vastly more injury than good. At the outset it is usually desirable to correct the digestive derangement. A cathartic containing some mercurial, or a grain of podophyllin associated with extract of hyoscyamus as a corrigent, administered at once, is productive generally of good results. After this, or simultaneously, the exhibition of some hypnotic is of paramount importance. The patient must sleep or die. Formerly opium was almost solely relied upon for this purpose, but opiates stand in the way of nutrition—they suspend digestion, and this constitutes a fatal objection to them. Happily, however, we have now a remedy that promises to do the good of opium without the evil, namely, the hydrate of chloral. In many cases this remedy acts like a charm, and quickly induces sleep. Half a drachm, dissolved in mint water or syrup of tolu, with the addition of tincture of cardamom, will procure a good sleep, in ordinary cases, for an adult; and although the medicine alone is by no means palatable, it can be made so by the above combination, and in general sits well on the stomach and leaves it in good order for digestion afterwards. It acts promptly, commonly within ten minutes, and if it does not procure sleep in half an hour, the dose repeated will seldom fail to do so. It is not an anæsthetic—the patient is sensible of pain under its influence, but inclined to sleep.

The use of bromide of potassium, so highly spoken of by many, has not been attended with satisfactory results in my hands, although tested as thoroughly and fairly as possible. The chloral hydrate leaves nothing to be desired, so far as my experience goes.

In the fulfilment of the second indication (the establishment of nutrition), the animal broths, free from grease, and seasoned strongly with capsicum to facilitate absorption, will be found to answer well. They alone, or in connection with eggs, milk, or beef-tea, will most likely be assimilated by stomach digestion. If not, recourse should be had at once to nutritious injections. Effervescing draughts internally and sinapisms to the epigastrium are useful in allaying nausea. Of course, perfect quiet and freedom from all exciting influences cannot be too strongly enjoined as aids in conducting the case to a favorable termination.

P. F. Harvey, Assist. Surgeon U. S. A.

Fort Jackson, La., Aug. 15, 1870.

LABIAL HÆMATOCELE:

A CASE REPORTED

By CHARLES McBURNEY, M.D.,

HOUSE SURGEON, BELLEVUE HOSPITAL.

[The following letter to Prof. Barker, reporting a case of labial hæmatocele occurring in his service, has been handed us in illustration of his lecture upon the subject, published in our last number.—Ed.]

Bellevue Hospital, May 9, 1870.

Dear Sir,—You asked me to report to you a case of labial hæmatocele which occurred during my lying-in service of last month. I take great pleasure in doing so, hoping that it illustrates some of the points you make in speaking of that complication. The case is this:

Ann B——, 29 years old, primipara; a strong and apparently well-developed woman. The first stage of labor began at 4 P.M., April 27th; was not finished till 4 P.M., April 29th—48 hours after. Vertex presentation; position, left occipito-anterior.

The head became thoroughly engaged in the superior strait, but after the first half hour of the second stage did not advance at all, though the pains continued pretty good. At the end of the seventh hour the head was in exactly the same position. The woman was becoming exhausted, the skin and vagina hot and dry, pulse much more rapid, and pains feeble. At that time, 11 P.M., I was just on the point of going to consult you, when the woman called to me that "her womb had come down." I had just previously examined her, finding nothing unusual. On examination now I found a tense, dark-colored swelling of the whole of the right labium, about half the size of my fist, and evidently increasing in size. I judged it to be an hæmatocele, and immediately put the woman under chloroform, and called the House Staff to the ward. We considered it a case of emergency, as the tumor was rapidly increasing in size, completely occluding the vagina. So I made an incision from the upper to the lower extremity of the labium, turning out a large clot of blood, and was surprised to find no more hæmorrhage. The clot was situated just beneath the true skin, in the connective tissue. The long forceps were then easily applied, and the child delivered. They could not have been applied had the tumor remained, without great danger of tearing it from its base.

The woman has had no bad symptoms and no more hæmorrhage. To-day, ten days after operation, both she and the child are doing perfectly well.

Charles McBurney.

Dr. Fordyce Barker.

New Instruments.

NEW GALVANIC APPARATUS.

By GEO. M. BEARD, M.D.

I desire to call the attention of the profession to a new combination of Smee's elements, which I have em-

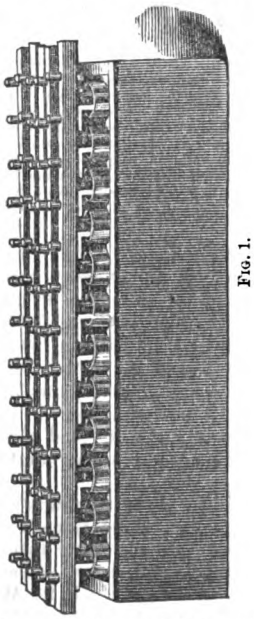

Fig. 1.

Fig. 1.—A much larger size of element is frequently used than the one here represented. Larger elements, which can be more easily cleaned and amalgamated, are frequently kept in the solution all the time without injury. It is not ordinarily desirable to have less than 40 large or 60 small elements. If the elements are too small, the current generated will be too weak, unless they are very frequently cleaned and kept in perfect order. This part of the apparatus may be taken out very conveniently, and carried, if it is first provided with some sort of a cover. It is not necessary to take out the box in which it is enclosed.

ployed for a number of months past, and which, in the various modifications of size, shape, and arrangement of which it is capable, will, I think, be acceptable to those who desire to use the galvanic current, either in hospital or private practice, in a stationary or portable form. The combination of 60 small elements, represented in Fig. 1, was made for me by Jerome Kidder, in 1869. I had before suggested and tried other combinations of Smee's elements, but had not met with the success I desired.

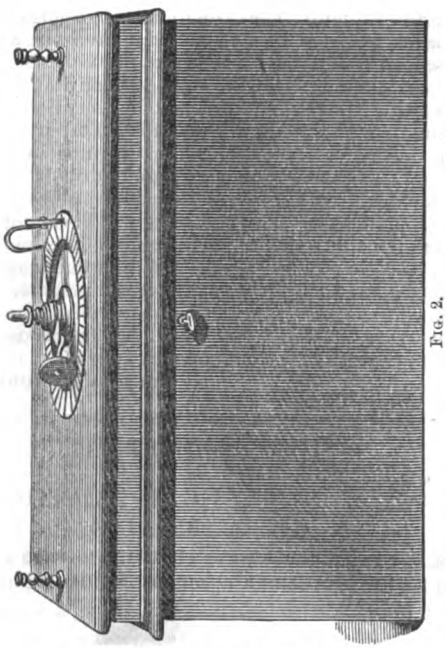

Fig. 2.

Fig. 2.—*Kidder's galvanic apparatus, with box and cover.* One of the wheels in the middle of the cover connects any desired number of cells from one upwards; the other wheel *increases* the current without interrupting it. The connecting wires are united to the posts at the ends. Kidder has recently added, at one end of the cover, a current interrupter, and at the other a current reverser. By a simple contrivance the acid solution may be raised and lowered from the metals, so that no action may take place when the battery is in disuse. The apparatus is made of various sizes, from 40 cells to 100, according as it is designed for hospital, or office, or portable use.

A combination which is very convenient for office practice, and which, if necessary, can be taken out, is one composed of 60 elements of medium size, contained in a box two feet long and 20 inches wide. The elements are kept all the time in the acid solution; but in order to prevent corrosion, they should be kept *well amalgamated with mercury*, a quantity of which should always be kept in each element.

This combination may be used alone, or in connection with the cover and arrangement represented in Fig. 2.

It is believed that these modifications are in the direction of simplicity, since Smee's element is more readily managed than any other form that is used in electro-therapeutics. A number of batteries with large elements which have been made by Mr. Kidder on this plan, have, I believe, given full satisfaction.

The Introduction of Chocolate.—Chocolate was originally introduced into Europe from Mexico by the Spaniards in 1520. The best cocoa beans, from which it is made, are produced in some parts of South America.

Obituary.

PROF. GUNNING S. BEDFORD, A.M., M.D.,

OF NEW YORK.

This distinguished medical writer and ex-professor of obstetrics died on Monday morning, September 5th, 1870, at 3½ o'clock, in the 64th year of his age. The sad event was not entirely unexpected by his family, as he had been suffering with paralysis for a long time. His funeral was largely attended at St. Ann's Church, Eighth street, on Wednesday, September 7th. A solemn requiem mass was celebrated by Rev. Father Preston. Archbishop McCloskey, a former fellow-student of the deceased, was present, and in well-chosen words alluded to his many virtues and high medical and oratorical attainments.

Gunning S. Bedford, A.M., M.D., was born in the City of Baltimore, Md., in the year 1806. He was the nephew of the distinguished Gunning Bedford of Delaware, who was the Attorney-General and member of the Legislature of Delaware when it first became a State; the latter also being one of the framers and signers of the Constitution of the United States. His uncle was the intimate friend of Washington, by whom he was appointed Chief-Justice of Delaware, a position he held till his death in 1812. In 1825, Dr. Bedford graduated at St. Mary's College, Emmetsburg, with high honors. While at college he distinguished himself for his oratorical powers and beautiful diction, becoming renowned as a lecturer and speaker. He was unanimously chosen by his classmates as their "valedictorian."

After graduating, Dr. Bedford's first idea was to study law. With that intention he left Baltimore, with letters for Daniel Webster, intending to study law in that distinguished gentleman's office.

When actually on his way to present his letters to Mr. Webster, he accidentally met an enthusiastic acquaintance who had just commenced the study of medicine. The acquaintance persuaded him to go with him and hear an anatomical lecture by Dr. John D. Godman. They went—the lecturer's subject was an interesting one—the circulation of the blood. Dr. Bedford was charmed and carried away with the eloquence of Prof. Godman, and determined at once to give up all idea of law and commence the study of medicine. Immediately after the lecture, he went up to Dr. Godman and introduced himself, showing him his letter to Mr. Webster, and frankly acknowledging that the eloquence of the lecturer had converted him, and that henceforward he would devote his time and energies to medicine. He accordingly became the pupil of Dr. Godman, who in turn became his preceptor and friend, and who did much to advance him in his profession.

In 1829, Dr. Bedford graduated at the Rutgers Medical College. Soon afterward he married, and then visited Europe with the intention of advancing himself in his profession. He remained abroad for two years, during which time he devoted himself to his profession, visiting the hospitals and attending the different lectures and cliniques.

Shortly after his return to America in 1833, he was appointed Professor to the Charleston Medical College, being but 26 years of age.

He was next appointed Professor in the Albany Medical College. After delivering several courses of lectures at the Albany School, he resigned, and determined to visit New York, and make this city the field

for his future exertions; and on his arrival here at once commenced a most lucrative and respectable practice.

Dr. Bedford was the first to conceive the idea of founding the University Medical College in this city. He made the suggestion to the late Dr. Valentine Mott, whose valuable aid was of great assistance. The Medical College was soon established, with the following distinguished professors: Baine, Revere, Draper, Patterson, Mott, and Bedford. The school was a great success. Dr. Bedford held the chair of obstetrics until ill-health forced him to resign, which was in 1862. During his connection with the College, he established an obstetrical clinique—the first ever held in this country. It was very successful, and was of great service to those who were too poor to pay a doctor's fee.

Dr. Bedford wrote many articles for the different medical journals, but his two great works are *Diseases of Women and Children*, and the *Principles and Practice of Obstetrics*. The former has gone through ten editions, and the latter five editions. They have been translated into the French and German languages, and have been very generally adopted as the text-books in the medical colleges in this country.

His first attack of paralysis was experienced while in the midst of an active practice, and while in his carriage on his way to visit his patients. This was in 1864. He has experienced four other attacks since that time.

He leaves a wife and several children to mourn his loss. Among the latter are Drs. Frederick Bedford and Henry M. Bedford, and Judge G. S. Bedford.

Progress of Medical Science.

Syphilization.—Professor Freeman J. Bumstead M.D., of New York (*Am. Jour. Med. Sciences*), in an extended article on "Syphilization," asks, "*Is Syphilization to be recommended for general adoption?*" From what he has personally witnessed, and from the accounts of others, he believes that it is a very effective method for the treating of syphilis. He cannot say that he is fully convinced of the very small number of relapses after "syphilization" alleged by its advocates; not that their honesty is doubted, but results so favorable as this should be confirmed by others less enthusiastic, and less interested, before demanding implicit belief. Should further examination and experiment show that only twelve or fourteen persons out of every hundred infected with syphilis, and treated by repeated inoculations, ever exhibit any return of the disease, this method will have established very high claims in the treatment of syphilis, whenever circumstances will permit its being carried out, as it may be in our hospitals and other eleemosynary institutions. But, judging from what he has seen of the practice, nothing less than a very strong probability, in case he had syphilis, that the disease, if left alone, or if treated by mercury, would terminate disastrously, could induce him to undergo the personal discomfort, and for the length of time, which has been witnessed in the patients at Charity Hospital. In short, he is obliged to subscribe to the opinion expressed by Messrs. Lane and Gascoyn, that "syphilization is not a treatment which can be recommended for adoption."

A Rare Disease of the Joints.—Professor Samuel Jackson, M.D., of Philadelphia (*Am. Jour. Med. Sciences*), describes several cases of a rare form of disease resembling rheumatoid arthritis, which have fallen under his observation in the course of his practice. The peculiarity of the affection is, that it is confined to the ligamentous tissues, whilst the general health of the patient is not at all disturbed. He has not been able to find any similar form of the disease described, and when in London he consulted Sir Benjamin Brodie in regard to it, who confessed that it was entirely new to him.

Influence of Section of the Cervical Pneumogastric.—After detailing fifty-one experiments on animals, Professor Horatio C. Wood, M.D., Jr., of Philadelphia (*Am. Jour. Med. Sciences*), gives us his results as follows:—*First.* The division of the cervical pneumogastric does, in the majority of instances, but not always, absolutely arrest free gastro-intestinal secretion, emetics and cathartics being absolutely powerless to produce it. *Second.* That this arrest is not due to any direct influence which the nerve has upon the intestine or its circulation, but is owing to two or three causes: accumulation of carbonic acid in the blood, interference with the circulation of the lungs backing up the blood upon the portal circulation, and perhaps shock.

These things being granted, the opposite results obtained by Brodie and Reid are explainable. It is well known that in a small proportion of cases division of the nerves does not induce the changes in the lungs ordinarily so fatal. In such instances there is no great accumulation of carbonic acid in the blood, nor is there any backing up of the blood in the pulmonary artery, and consequently upon the right heart, and finally portal circulation.

The secondary results of section of the par vagum—the actual causes of the arrest of gastro-intestinal secretion—are therefore wanting in these cases; and he believes it to be in such that emetics and cathartics act freely after division of the nerves. The rarity of such cases is the reason why those experiments are proportionately so few in which such drugs act in their ordinary manner after the operation.

Acetic Ether as an Anæsthetic.—At a recent meeting of the College of Physicians, Philadelphia, Dr. H. C. Wood (*Am. Jour. Med. Sciences*) spoke of the prevalent dissatisfaction of the profession with our present anæsthetics, and the consequent search, especially in London, for new ones. He exhibited a specimen of *acetic ether* to the College, prepared for him by Mr. Chas. Bullock, of Philadelphia, and stated that he had not yet tried to fully anæsthetize the human subject, but in pigeons and rabbits it produced perfect unconsciousness without nearly so much previous struggling as when ether was used. It has a peculiar pleasant odor, very closely resembling that of apples, which no doubt owe their smell to it or the closely allied malic ether. An advantage which it has over sulphuric ether, especially for night use, is its comparative non-inflammability, connected partly with its lesser volatility. A pigeon passes gently into an insensible state, and awakes without struggling after a few minutes of quiet sleep.

Functional Dyspepsia.—Dr. Geo. P. Andrews, of Detroit, Mich. (*Detroit Review of Medicine and Pharmacy*), insists upon rest to the stomach, in this affection, and the avoidance of food difficult of digestion or in excessive quantities. The milk diet is often attended by the happiest results. It may be taken clear or with one-third of lime-water, and in small quantities often. Strict attention to hygienic matters must be enjoined, and no alcoholic stimulants allowed, except as directed by the physician. Usually, little medication will be needed, except to relieve torpor of

the bowels, which should be accomplished by the mildest laxatives, when enemata are insufficient. Pain may be allayed by the various narcotics, bismuth, hydrocyanic acid, or carbolic acid exhibited in one or two drop doses suspended in mucilage, repeated every three or four hours. This latter remedy will also, usually, allay nausea and vomiting.

ADDISON'S DISEASE.—Dr. Gordon (*Med. Times & Gazette*), while alluding to the exact relationship between bronzing of the skin and supra-renal disease—which are open questions—remarked that there is reason to believe that Dr. Addison was aware that the connection between the two conditions was not invariably found to exist. The most frequent morbid appearance in the supra-renal capsules, when disease of those organs is discovered, in cases of bronzing is "tubercular" deposit. So far as observations have yet gone no connection has been traced between bronzed skin and disease of any other of the ductless glands.

RHEUMATISM.—J. Parker, M.D. (*Eclectic Med. Jour.*), finds the following excellent in chronic rheumatism:

℞. Comp. syr. stillingia, ℥ iij.
Vin. rad. colchicum, ℥ iss.

MIX.—Dose—A teaspoonful thrice daily, and alternate with carbonate of lithia.

EXOPHTHALMIC GOITRE, WITH INSANITY.—J. B. Andrews, M.D. (*Am. Journal of Insanity*), in an interesting communication on this subject, first describes the disease as follows:—It has three characteristic symptoms: prominence of the eyeballs; enlargement of the thyroid gland; palpitation of the heart. There is generally no disturbance of vision. Occasionally adaptation is difficult, and then weakness of sight; but diplopia is never present. Hypertrophy of the thyroid gland takes place gradually; both lobes may be enlarged to an equal degree, but in a majority of cases the right is the one chiefly affected. The patient complains of dizziness and palpitation of the heart long before the exophthalmos or the goitre have been detected. The force of the heart's action at times produces a prominence of the chest walls which can be readily detected. There are secondary symptoms which should be noted. In some cases the appetite is diminished, in others voracious and always capricious. The heart's action is increased in frequency, the pulse varying from 120 to 150. Vomiting and cough are unpleasant, and, at times, dangerous complications of the disease. The patient's temper is greatly altered. He may become quick-tempered, irritable, and at times violent. Hallucinations and sometimes insanity may occur in the course of the disease. A change in the voice takes place, which is due to disturbance of respiration from pressure upon the recurrent laryngeal nerve. Patients rally from several of these attacks, and may die of intercurrent disease. Death in the first paroxysm is not frequent. When the prominence of the eye shows itself, as it often does, in paroxysms, this condition is ascribed to a violent and active congestion. The only other disease with which this is likely to be confounded is aneurism of the aorta, or of one of the arteriæ innominatæ. In aneurisms the swelling will occupy but one side of the thyroid gland: in this disease it may exist on both sides. Graves' disease is common among women, but relatively rare in men. Of fifty cases collected by one author, but eight occurred in men. Dr. Andrews alludes to the fatal case of a man, twenty-six years of age, which came under his own observation, and to three cases reported by Dr. Morell Mackenzie—the latter being women. The treatment adopted in the first was that recommended by Trousseau—the free use of digitalis and the local application of the ice-bag. The digitalis quiets palpitation and diminishes the frequency of the cardiac and arterial pulsations; the application of the ice offers the twofold advantage of causing a violent revulsion to the skin, and of rendering innervation and nutrition more perfect. Bleeding is recommended only when the pressure of the gland from congestion threatens asphyxia. Dr. W. B. Cheadle has recently reported to the Harverian Society eight cases of this disease, in six of which iodine was given continuously for many weeks, and in only one case was it deemed necessary to discontinue it on account of increased palpitation following its administration.

HYDRATE OF CHLORAL IN DELIRIUM TREMENS.—C. A. Stivers, M.D., of the San Francisco Hospital (*Pacific Med. and Surg. Journal*), commends this remedy in severe attacks of delirium tremens, and publishes two cases. In the first case, female, æt. 38, native of Ireland, the nurse was obliged to place her in a strait-jacket. Dr. S. ordered: ℞ Chloral hydrate, 1 dr.; syr. pruni virg., aquæ, each, 1 oz.; one-half to be taken at once, and the remainder in two hours, if no sleep. The first dose was given at 10 A.M., the second at 12 M. No sleep, but patient rather more quiet. Repeated the same prescription, and gave one-half at 2 P.M. Patient sleeping soundly at 2½ P.M., and continued in that condition until 9 P.M., when she awoke free from delirium. Took a pint of beef-tea. At 12 M. the remainder of the hydrate was given—in all 2 dr. Directly afterward she fell asleep, and so continued until morning, when she was discharged cured. No return of delirium occurred.

In the second case, male, æt. 27, native of Ireland, only two doses were given. After the first dose the patient slept two hours. The remainder being given, he was asleep in ten minutes, and continued in a sound sleep all the afternoon and night—a little over fifteen hours. Next day he was discharged cured.

He adds, in concluding: "In some instances in which it has failed to exhibit its effects, undoubtedly the failure was owing to the smallness of the dose." In his cases the chloral was given in full doses.

TWO CASES OF CHOPART'S OPERATION.—Daniel Leasure, M.D., of Alleghany City, Pa. (*Med. and Surg. Reporter*), alludes to two satisfactory operations of this nature, made by him for the purpose of adding to the statistics of the conservative surgery of the foot, in which the surgeon might have justified himself against blame by amputation in the lower third of the leg, but the patients would not have been by any means quite so well off as they are.

GALVANO-PUNCTURE.—The discovery of this branch of surgical treatment originated in the brain of M. Pravaz, of Milan, in the year 1832. It fell into neglect until Liston, in the year 1838, and M. Petrequin of Paris, advocated its use again in the treatment of aneurisms.

This operation is fully considered by Allan McLane Hamilton, M.D., in his graduating thesis entitled "Galvano-Puncture applied to the Treatment of Aneurisms," which took the "first Thesis Prize" of the Class of 1870, College of Physicians and Surgeons, New York. He reports 90 cases of aneurisms treated by galvano-puncture; cured, 48; not cured, 42.

Dr. H. would suggest its use in pelvic hæmatocele and in fungus hæmatoides. For the former operation he has devised an instrument consisting of two parts, a *rectal* and *vaginal*. The rectal forms the negative electrode, the vaginal a positive.

Dr. Bocchetti reports a case in *l'Union Médicale*, of the agency of this remarkable power in extra-uterine fœtation.

SUPERNUMERARY FINGERS AND TOES.—A young man belonging to the literary department of the University of Michigan, recently presented himself to Prof. A. B. Crosby, M.D., who amputated a supernumerary little finger from the ulnar border of the left hand. On the right hand he had five symmetrical fingers besides the thumb. He has also six symmetrical toes on one foot. These peculiarities are evidently hereditary. The father had six toes on each foot, and six fingers on each hand. He has one brother who has the same number of supernumeraries as the father; and a second brother has six toes on each foot, and six fingers on one hand. A niece, child of the patient's brother, had six fingers on each hand, and six toes on each foot.—*Mich. Univ. Med. Journal.*

THE ABORTIVE TREATMENT OF URETHRITIS.—Dr. Alex. W. Stein, of New York (*N. Y. Med. Journal*), in a paper on "Pathology and Treatment of Urethritis," says he has very little to do with the abortive treatment of urethritis, for the following reasons: 1st. Because it is extremely seldom that he sees his patients when such a treatment is justifiable. 2d. That when the opportunity offers it very frequently fails in its object. 3d. When it fails, it intensifies and prolongs the disease; and 4th. Because of the danger of producing a good deal of mischief. Furthermore, it is not improbable that many of the cases reported as successful instances of this practice would have recovered without going through the painful ordeal of caustic injections. Slight irritation at the meatus with a little mucous discharge is not an unfrequent consequence upon excessive sexual intercourse, which usually disappears within 36 hours under a very mild treatment, often with no interference whatever. These slight symptoms, therefore, cannot always be regarded as indicating abortive measures.

Of all remedies, the argenti nitras is least adapted for injection into the urethra. If a strong solution of this caustic is applied, it frequently excites violent inflammation.

HEALTH RESTORED BY THE EXTRACTION OF DISEASED TEETH.—James H. Hodgkin, D.D.S., Alexandria, Va. (*Am. Jour. of Dental Science*), alludes to the case of a woman, æt. thirty-eight, who came to him with distressing pains in the head, affected sight, and impaired hearing, for the purpose of having the upper teeth extracted, which were badly decayed, being mere stumps. All of the teeth were extracted, with the exception of two, and she was requested to call in about three weeks, when they would probably be in a better condition and her nerves more firm. She called at the time appointed, and expressed herself much gratified, as her troubles were much mitigated, hearing and sight improved, and the distressing pain in the head almost gone. The remaining roots were now removed, and she decided to wait until she could have a permanent set of teeth before having the plate constructed. At the appointed time the patient called to have the artificial teeth constructed, and stated that the restoration of her health was entire, and has been since, a period of two years.

HYDROPHOBIA.—M. H. Pouley, in a valuable contribution to the *Académie des Sciences*, on the causes and management of hydrophobia, declared that it was possible to obviate the effects of the inoculation of virus of rabies by a prompt cauterization of the bites.

Of 310 cases of bites alluded to, 284 were inflicted by male dogs, 26 by bitches, 5 by cats, and 5 by wolves. The cases in winter corresponded almost to a unit with the hottest period of the year.

SCHWANN'S DISCOVERY.—In 1837 Schwann discovered that meat highly heated and excluded from air never putrefied.

URINARY ANALYSIS.—A fact recently published by Dr. Thudichum is calculated to throw some degree of doubt on the accuracy of the urea-determination by the well-known method of Liebig—a method which consists in the employment of a solution of nitrate of mercury of known strength.

It appears that, in addition to the compound of urea with oxide of mercury, there is formed the mercury-salt of a new organic acid, which its discoverer, Dr. Thudichum, has called "kryptophanic acid," and to which the following formula is assigned: $C_{10}\ H_{18}\ N_2\ O_{10}$.

The salts of the new acid are, for the most part, soluble in water, and of three kinds—to wit, mono-, di-, and tri-basic. The lead, silver, and mercury salts are insoluble in water.—*Lancet.*

IODOFORM.—Dr. Stiles Kennedy, of Newark, Del. (*The Med. and Surg. Reporter*), recommends iodoform as an addition to the ordinary plasters and ointments for syphilitic periostitis. An ointment containing from 30 to 60 grains of iodoform to an ounce of lard is a beneficial remedy to painful burns, sores, chancres, and boils, promoting rapid healing. In two cases of chancre the dry powder was applied with magical results.

LOTION OF LEMON-JUICE.—Take of fresh lemon-juice, rose-water, alcohol, equal parts—mix. The next day decant the clear portion, and strain it through muslin.

ON TEMPERATURE IN SO-CALLED MILK-FEVER.—Dr. D. F. Lincoln, of Boston (*Boston Med. and Surg. Journal*), gives the subjoined statements made recently by Prof. Halbertsma, of Utrecht, as the results of measurements of temperature, taken twice or oftener every day, in 134 cases of lying-in women. 1st. We have no right to connect the sub-febrile elevations of temperature (Wunderlich), on the 3d and 4th day after delivery, with the secretion of milk exclusively. The processes which take place in the genitals have certainly a great influence; probably the greatest. 2d. Febrile *temperatures* (which alone give us the right to speak of *fever*) are usually the result of traumatic fever, or of the fever of infection. 3d. We have at present no right to suppose the existence of such a thing as "milk-fever"—unless, with Schröder, the name is reserved for the non-purulent inflammations; a nomenclature which is not in harmony with that employed in inflammations of all other organs. We should have, in consistence with this system, to speak of lymph-fever, prior to the occurrence of suppuration in the glands; while lymphadenitis would have to be reserved for the actual suppurative stage.

METHYL-ETHYLIC ETHER AS AN ANÆSTHETIC FOR SHORT OPERATIONS.—Benjamin W. Richardson, M.D., of London (*Med. Press and Circ.*), at a late meeting of the London Medical Society, suggested *methyl-ethylic ether*, as the readiest and best agent for short operations. It was better than nitrous oxide gas, because it allowed air to be given with it, and did not asphyxiate; it was better than bichloride of methylen, because it did not produce muscular spasm and syncope. At the same time he did not consider it as perfect, nor should he consider general anæsthesia perfected, until he or some other observer should discover an agent that will destroy sensibility

without interfering at all with organic muscular life, voluntional power, or consciousness. Methylic ether approached this perfection, though it did not touch it, and it encouraged perseverance in experimental research. For these reasons it was worthy the attention of the profession.

HYDRATE OF CHLORAL.—Dr. Miller, of Stockbridge, Mass. (*Boston Med. and Surg. Journal*), reports the case of a clergyman, 54 years of age, who, 13 years ago, received a severe blow upon the cranium and has ever since been subject to attacks of pain on the left side of the head. He has greatly improved under hydrate of chloral in ten-grain doses, given when the attack is anticipated.

A FLUID FOR PRESERVING ANATOMICAL SPECIMENS.—Dr. C. Méhu, Pharmacist to Necker Hospital, Paris (*Bull. Gén. de Thérap.*), recommends the subjoined formula as a preserving fluid:—

Arsenious Acid	20	parts.
Crystallized Carbolic Acid	10	"
Alcohol	300	"
Distilled Water	700	"

ARTIFICIAL FECUNDATION.—Dr. Girault, of Paris (*Medical and Surgical Reporter*), lately read an essay before the Medical Society of the Pantheon, entitled "A Study on Artificial Generation in the Human Race," and reported in all twenty-seven attempts at artificial procreation in the human female, of which ten were successful, and others doubtless would have been, if the couples had been more persevering in their efforts, and allowed him to continue his endeavors.

The only instrument necessary is a uterine catheter with a funnel-shaped opening at the external end. Into this the sperm is placed, after the point has been introduced into the cervical canal, and blown into the cavity of the uterus. The instrument should be of the temperature of the body, and the semen contain active spermatozoa, with long and rapidly vibrating tails, as the latter is the sign of their fecundating power.

Among others, he related the following case: A man, 65 years old, married to a wife of 27 years, had passed seven years without offspring. The pair applied to Dr. Girault, who, after four failures, succeeded so completely on the fifth attempt, that in nine months afterwards the lady was delivered of a pair of twins, one boy and one girl. The latter died after three months, but the former survived and was healthy when last seen, at the age of nine years.

POISONING BY AMERICAN CICUTA.—Four cases of poisoning occurring in children, three of which were fatal, from eating the root of the Water Hemlock or American Cicuta, are related by Dr. W. H. Matchett, of Greenville, Ohio (*Cin. Lancet and Observer*). He has no knowledge of the poisoning of animals by this plant; many rumors, however, are afloat of sheep and cattle being killed by it. In early days of the settlement of Ohio the "milk sick" was a dreaded disease, and many are of the opinion this plant was the poisonous agent; but for some years past there have been no cases of milk sickness, yet the cicuta is now found growing in the low or marshy pastures.

TREATMENT OF TUBERCULOSIS.—Wade Minor Logan, M.D., of Cincinnati, Ohio (*Cin. Lancet and Observer*), considering alcoholic stimulants in the treatment of tuberculosis as being worse than useless, except in cases of extreme exhaustion, suggests the use of nitric and muriatic acids. Nitric acid is tonic and antiseptic, having been successfully used in typhus and malarial fevers. Muriatic acid is tonic, antiseptic, antiphosphatic, and cholagogue, and is used as an adjuvant to the former acid.

Dr. Logan administers nitric acid in doses of gtt. xv. of the officinal diluted in *aquæ puræ* ʒ ij., immediately after each meal, for the purpose of aiding digestion. The quantity of muriatic acid which he administers is contained in gtt. xxx. vel gtt. xv. of Tr. ferri chloridi, giving this agent for the two-fold purpose of both the acid and iron, having it taken sufficiently diluted half an hour before each meal, thereby exerting its stimulating or appetizing influence. In support of his views, a tabulated report of 14 cases is appended; 6 of these recovered; 4 are recovering; 2 died; 1 is favorable, and the other is put down "stationary."

These cases were treated with the acids, aided by various auxiliaries, as counter-irritants, narcotics, expectorants, cod-liver oil where it was tolerated, using very little alcohol, however.

SACCHARINE DIABETES.—Two cases of this disease are narrated by J. S. Cabell, M.D., Prof. of Physiology and Surgery, University of Virginia (*The Richmond and Louisville Med. Journal*), which were benefited by the administration of Rockbridge alum-water, and a restricted diet, consisting of bran cakes made according to the formula of Dr. Camplin, of London, of fresh meat and of vegetables which contain little or no sugar or starch.

In the first case, Prof. Cabell was struck with the apparent effect of the Rockbridge alum-water, which had been suggested by a member of the patient's family, and ordered it to be continued. He had often experienced in his own person the marked effect of this mineral water in allaying thirst with a very trifling consumption of the article, and advised it in the second case. These cases are given to the profession with the view of inviting attention to a remedy which is believed to have been an efficient agent in the apparent cure of the second case, and in relieving, in a marked degree, the other case in which the remedy was used in a very irregular manner.

USE OF MILK AS PRESERVATIVE AGAINST LEAD POISONING.—M. Didierjean, a red-lead manufacturer (*The American Chemist*), states that, having taken all possible precautions to keep their workmen in a healthy state, he did not, however, quite succeed in preventing lead colics until, by a mere accident, it was found that two of their men were never affected at all. On inquiry being made, it turned out that they regularly took milk as drink at the time of taking their meals at their works. The owners of the works were thus induced to make the use of milk (one litre daily) obligatory for their workmen while at the works; and, by exercising a proper surveillance, have succeeded, during 18 months, of keeping, by this means, all their men free from any symptom of lead disease.

NEURALGIA OF THE OCCIPITO-FRONTALIS MUSCLE RELIEVED BY AN OPERATION.—John O. Mettauer, M.D., LL.D., Prince Edward Court-House, Va. (*The Boston Med. and Sur. Journal*), advocates, in stubborn cases of neuralgia of the occipito-frontalis muscle, the subcutaneous division of the occipito-frontalis muscle. The muscle is divided by four incisions, without removing any portion of the hair, through a single scalp-wound. In six days these incisions heal perfectly, and with no more than the requisite degree of traumatic inflammation. He has treated successfully by incision two cases of this character, which had resisted the free use of quinine and narcotics.

Medical Items and News.

A Private Asylum for Inebriates and Opium-Eaters.—A new institution of this character has been established at Greenwood, Mass., eight miles from Boston, by Dr. Albert Day, late of the Binghamton Inebriate Asylum.

Female Medical Students in Germany.—The University of Vienna admits women to its Medical School. Two females have already entered.

British Medical Association.—The Thirty-eighth Annual Meeting of the British Medical Association was held in Newcastle-upon-Tyne, on the 9th, 10th, 11th, and 12th of August. An *Address in Medicine* was delivered by Francis Sibsom, M.D., F.R.S., F.R.C.P., Physician to St. Mary's Hospital. An *Address in Surgery* was delivered by G. A. Heath, M.D., M.R.C.S., Senior Surgeon to the Newcastle-upon-Tyne Infirmary.

No paper presented in the sessions occupied more than *twenty* minutes in delivery—all subsequent speakers did not exceed *ten* minutes.

Exophthalmic Goitre.—This disease was first described by Graves in his treatise on "Clinical Medicine." It has also been called Basedow's disease, but his description was subsequent to Graves.

The Surviving Graduates of Yale College.—From the "Obituary Record of Graduates of Yale College," we find that the whole number of deaths reported as occurring during the last year, ending in July, 1870, is 66, and the average age of the graduates of the Academical Department is 61 years.

The surviving graduates of the last century are, as for two years past—Class of 1794, Hon. Ezekiel Bacon, Utica, New York, born 1st September, 1776; Class of 1796, Timothy Bishop, New Haven, Connecticut, born 29th October, 1777; Class of 1797, Rev. Charles Goodrich, Penn Yan, New York, born 2d April, 1778; Class of 1800, Rev. Thomas Williams, Providence, Rhode Island, born November, 1779.

Icterus Neonatorum.—S. M. Monser, M.D., of San Francisco, California (*Cal. Med. Gazette*), asserts that a young Scotch woman in San Francisco was delivered of three male children with icterus neonatorum, born in succession of the same parentage. The first, born eight years ago, died at birth; the second succumbed on the ninth day; the third died on the eleventh day.

He has no doubt that phlebitis (perhaps of the portal vein) was the cause of death in all these children; but why it should have occurred is a question he is not prepared to decide. The parents both seem to enjoy perfect health.

Long Island College Hospital.—Professor Alpheus B. Crosby, of the University of Vermont, has accepted the chair of surgery in the Long Island College Hospital, of Brooklyn, New York.

Japanese Professorships.—The King of Prussia has been requested by the Japanese Government to send out competent German medical men to fill medical and surgical professorships.

A New Anæsthetic.—Dr. Liebreich, of Berlin, claims that he has discovered a substitute for chloroform, which he calls æthyliden chloride.

Hudson County, New Jersey, Hospital.—This hospital was formally opened June 2d. The following is the medical staff: *Consulting Surgeons*, Professor A. C. Post and Dr. J. H. Hinton, New York. *Consulting Physicians*, Drs. H. D. Bulkley, New York, and J. M. Corneilison, Jersey City. *Attending Physicians and Surgeons*, Drs. I. N. Quinby, F. E. Noble, E. P. Buffit, J. B. Burdett, John M. Julian, L. W. Elder, John Kudlick. *House Physician and Surgeon*, Dr. John Q. Bird.

Iodide of Potassium in Consumption.—Dr. Batchazer Foster (*Med. & Surg. Reporter*) recommends iodide of potassium in some cases of phthisis. He only gives it in doses of eight to fifteen grains, however, when ether is not tolerated with cod liver-oil.

A Gift to the Massachusetts General Hospital.—Dr. Henry J. Bigelow, the senior surgeon of this venerable hospital, has given it a complete set of surgical instruments, made expressly under his direction in London and Paris. In addition, Dr. Bigelow presents a permanent fund for their renewal, and subscribes for a *free bed* for five years, the whole donation amounting to the sum of five thousand dollars.

Hartford Retreat for the Insane.—We glean the following from the Forty-fifth and Forty-sixth Annual Reports of this Institution:—The whole number of patients in the Retreat at the beginning of the year, commencing April 30, 1869, was 135; admitted during the year, 123; total in year, 258. Of this number there have been discharged: Recovered, 41; much improved, 16; improved, 32; not improved, 10; died, 25; total discharged, 124. Remaining in Retreat, April 1, 1870, 134; whole number admitted to April 1, 1870, 5,150; whole number discharged during same period, 5,016; whole number remaining, 134. Of those that died during the past year, 14 were males and 11 were females; 9 deaths were from general paralysis, 7 from acute mania, 3 from chronic mania, 2 from puerperal mania, 2 from apoplexy, 1 from epilepsy, and 1 from rheumatic fever.

The Heart's Labor.—In a boat race, it is calculated that fifteen foot-pounds of work are performed by each ounce of muscle during each minute of the rowing. No muscular labor that man can undertake is more severe than this; and yet this labor is only three-fourths of that which is exerted day and night during life by each of our hearts. If the heart should expend its entire force in lifting its own weight vertically, it could raise that weight 19,754 feet in an hour.—*Boston Jour. of Chem.*

The Waste of Croton Water.—The Water Purveyor in the New York Department of Public Works estimates that fully fifty million gallons of water are daily wasted in the city, the greater portion being at piers and ferries. Water meters are being prepared, and will speedily be adjusted at all those places where there is reason to suspect any waste.

Mercurial Suppositories in Constitutional Syphilis.—Prof. Lebert (*Berlin Klin. Wochenschrift*) has had such success in the employment of these suppositories that he is desirous of calling attention to their value.

They are formed by mixing mercurial ointment with butter of cocoa and white wax, so as to obtain a convenient consistence.

Treatment of Carbuncle by Pressure.—Dr. M. L. Bennett, of Burdett, N. Y. (*Am. Jour. Med. Sciences*), advocates this mode of treating carbuncle, as recommended by Dr. O'Ferral, of Dublin, Dr. John Ashhurst, Jr., of the Episcopal Hospital, and others.

Oxygen Gas in Sun-Stroke.—Dr. C. G. Hill, Resident Physician at Washington University, Baltimore (*The Medical Bulletin*), has employed inhalations of oxygen gas in sun-stroke, with good results.

Sugar Consumed in the United States and Great Britain.—The amount of sugar consumed in the United States during the year 1859 was 431,184 tons, or about 30 lbs. per head.

The average increase of its use during the decade ending 31st December, 1859, was 6¾ per cent. per annum, which would give in round numbers 990,000 tons, or nearly 50 lbs. per head, as the amount consumed in 1869. In Great Britain, in 1869, the amount consumed was 586,954 tons, or an average of 43 lbs. per annum for each individual; while in Russia the yearly consumption does not exceed 3 or 4 lbs. per haad.

The Discoverer of the Acarus in Sugar.—Dr. Hassall was the first to employ the microscope in his researches into the adulteration of sugar, and discovered a beetle-like animalcule, of the genus *Acarus*, approaching somewhat in its organization the *itch-mite*.

Ice.—London (England), with a population more than thirteen times larger than that of Boston, Mass., consumes one-half the quantity of ice.

California Quicksilver.—The total annual supply of quicksilver from California is not far from 50,000 flasks, or about 3,000,000 pounds.

Death of English Physicians and Surgeons.—Charles Hewitt Moore, F.R.C.S., author of several important papers in the "*Medico-Chirurgical Transactions*," died June 6th, æt. 49.

Edwin Lee, M.D., the well-known author of Baths and Watering-places of the Continent and England, was stricken down in June, and died shortly afterwards.

Daniel Maclachlan, M.D., Retired Physician and Surgeon of the Chelsea Hospital, passed away June 15, æt. 63.

Exsection of the Ulna.—On the 25th of February last, Dr. C. S. Muscroft, M.D., of Cincinnati, Ohio (*The Cin. Lancet and Observer*), successfully exsected the entire right ulna from a carpenter, æt. 42, with caries of the bone. No vessel required to be tied. Before closing the wound it was well washed out with a solution of carbolic acid. His confinement to bed lasted three weeks. With the exception of anchylosis of the elbow-joint, the arm now (July 1st) is nearly as useful as it was previous to the injury which led to the exsection. There is, he thinks, some reproduction of the ulna, commencing at the elbow-joint and extending about three inches towards the hand.

Fatty Liver.—This variety of diseased liver is almost peculiar to phthisis. In three years Louis met with it forty-nine times, and forty-seven of the patients died phthisical.

Crossly.—Sir Francis Crossly, an English millionnaire, has given £200,000 to certain medical charities, with the singular condition that it shall be perpetually invested in United States securities.

Medical and Chirurgical Faculty of Maryland.—At the annual convention of this society, held April 20th and 21st, at the Hall of the Faculty, in Baltimore, the following officers were elected: President, Prof. Nathan R. Smith; Recording Secretary, Dr. H. M. Wilson; Assistant Secretary, Dr. G. W. Register; Corresponding Secretary, Dr. E. Lloyd Howard; Treasurer, Dr. P. Kinnemon.

The Siamese Twins.—This renowned pair—called Chang and Eng—who have recently returned from the Old World in the steamer Palmyra, are in a sad plight. One has had an attack of hemiplegia. The other seems to be perfectly well. The question is suggested—Should the paralytic die, what would be the fate of the other, since science has determined that they cannot safely be separated by a surgical operation? They have left this city for their farm in North Carolina.

Death of an English Workhouse Woman—A Hair Eater.—A woman named Harriet Adams lately died in St. Pancras Workhouse Infirmary, from the effects of eating her own hair. Dr. Ellis, on making a post-mortem examination of the body, found embedded in the stomach and intestines a quantity of human hair—no doubt her own—and wool, which the deceased had eaten. The effect of the secretion of this hair and wool had been to produce ulceration of the stomach, and cause death.

Death of a Noted English Ophthalmologist.—John Zachariah Lawrence, F.R.C.S., M.D., a renowned writer on ophthalmology, died July 18th, in the 42d year of his age.

A Diminutive Child.—Mrs. James Harris, of Jefferson County, Ill., has a lively four-months old baby that weighs only two pounds.

Decease of an ex-Professor.—Dr. Leonard Marsh, for fifteen years a Professor in the University of Vermont, died August 16th.

Malformation—Absence of the Right Lung.—Dr W. Dickey (*Cin. Lancet and Observer*) publishes a case of this character occurring in a pale phthisical girl of 16 years. The lung of the left side was somewhat larger than normal; no lung in the right side, not even a segment at the bifurcation.

The Removal of an Immense Tumor from the Head.—John P. Furniss, M.D., of Selma, Ala. (*N. O. Journal of Medicine*), recently removed from the head of a negro girl, aged 13, a fibro-cystic tumor which weighed eight pounds and seven and a half ounces (avoirdupois). It extended from the anterior fontanelle to the occipital protuberance, and strongly adhered to the bones of the head. The patient did well until the sixth day, when erysipelas set in, and on the eighth she died.

Decease of a Western Ophthalmologist.—Dr. J. S. Haldreth, a well-known ophthalmologist of Chicago, Ill., died suddenly July 22d from an overdose of some narcotic, accidentally taken while suffering from neuralgia.

Hæmoptysis in Connection with Tuberculosis.—According to Prof. Skoda, of Vienna, hæmoptysis is *no cause* of the subsequent disease of the lungs; that cause lies somewhere else than in hæmoptysis, which is only a symptom of the diseased process in the further development of tuberculosis.

The Temperature of Baths.—Cold baths, 32° to 60° F.; cool baths, 60° to 75°; moderately tepid baths, 75° to 85°; tepid baths, 85° to 92°; warm baths, 92° to 98°; hot baths, 98° to 112°.

To Remove Silver Stains.—Wash the spots with a concentrated solution of sulphate or chloride of zinc, and rub the worst places with metallic zinc. Then rinse in pure water and complete the washing with soap. Ink stains can be removed in this way.—*Jour. of Applied Chemistry.*

Original Lectures.

ANTIPHLOGISTIC TREATMENT IN DISEASES OF CHILDREN:

REMARKS BEFORE THE NEW YORK MEDICAL JOURNAL ASSOCIATION, APRIL 15 AND 22, AND MAY 27, 1870.

By A. JACOBI, M.D.,

CLINICAL PROFESSOR OF DISEASES OF CHILDREN, COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

Lecture III. Part I.

[Phonographically reported for the Record.]

Mr. President—At the meeting of the 15th of April I stated my ideas upon inflammation and the action of antiphlogistics, which I need not repeat. I have, to-night, simply to continue my remarks upon those antiphlogistics most used in the diseases of children; and I would say again that, as the facts I have to give are mostly derived from my clinical experience, they should not be expected to cover the subject completely.

ERGOT.

The remedy that will first claim our attention to-night is ergot. If there be any doubt that quinine acts through the nervous system—and there are some who think it acts simply through a change worked in the blood—there can be no such doubt concerning ergot. Partly from the physiological experiments of Brown-Séquard, and partly from clinical observation, it must now be considered a fixed fact that ergot acts through the nervous system, and especially through the sympathetic, upon the unstriped muscular tissue under its control. Thus it is that ergot produces its peculiar effect upon the muscular tissue of the uterus, the unstriped fibres of the bladder, the muscular layers of the intestines, and especially upon the muscular coat of the blood-vessels. Its power in diminishing the size of the blood-vessels is manifest from its value as a hæmostatic; and it is of this power we have to speak in considering its antiphlogistic effect.

This effect is noticeable in fevers generally, and particularly in fevers of the intermittent type. It is an established fact, in my opinion, that many cases of obstinate intermittent fever will, when no longer benefited by quinine or arsenic, still be benefited by the action of ergot. My first experience with the drug as an antifebrile was in cases of this nature—in very obstinate intermittents which yielded to this after other remedies had been proved powerless. From that time—about a dozen years ago—I have given it not only in intermittent fevers, but in a number of other affections, chiefly the following:

In many cases, not uncommon in women and children, of spinal meningitis—resulting in pain in the spine, slight fever, occasional convulsions, partial or total paralysis—I have given a mild preparation of ergot, and have uniformly found a beneficial effect.

I have given ergot in the first stage of the so-called infantile paralysis, or, as I incline to call it in most cases, the spinal paralysis of children. For I take it that the great majority of instances of "infantile," or "dental" paralysis are dependent upon congestion of the spinal cord, that is, dilatation of the blood-vessels, and usually with hemorrhage taking place to a small extent inside the vertebral canal. It usually happens that such children are paralyzed in one lower extremity, or in both; now and then also in an upper extremity; sometimes without premonitory symptoms, sometimes with prodromic fever, severe or slight, etc. These symptoms are, to my mind, best explained, in most cases, by supposing an extravasation with the attendant dilatation of blood-vessels. The common observation is, that such cases often begin to improve immediately after the affection has set in; improve very rapidly for four, five, or six days; improve slowly for five or six weeks more; and then the process stops, no benefit being derived from any treatment, except, perhaps, from the electrical. As, in my view, the pathology includes dilatation of the blood-vessels in the neighborhood of the seat of hemorrhage, not only producing the effects of congestion, but also incurring the liability to further extravasation, I give ergot to contract the vessels, and I have uniformly seen that in such cases as came under this treatment, even so late as the second or third week, the improvement was much more rapid than in those where nothing was done. But many of the cases we do not see at all until it is too late to do anything.

In several cases of chorea minor, or St. Vitus' dance, I have used ergot with great benefit—not in the form dependent on rheumatic affection and found in the course of slight articular rheumatism, but in that form which goes hand in hand with pain in some portion of the spinal column, and can be traced back to spinal meningitis.

Now and then we have neuralgic affections depending upon spinal meningitis, which will be helped by ergot, if given early, at the same time that slight purgatives, etc., are not omitted—all those cases of pain in the back with, perhaps, slight intercostal neuralgia, perhaps slight herpes zoster, which are not improved by the usual treatment, but require something to act upon the blood-vessels.

I have tried ergot also in some cases of brain disease, but cannot say that I have been so successful there; at all events, I cannot lay my finger upon such a number of successes as I am confident that I have gained from this remedy in diseases of the spinal canal. In diseases of other organs I have had very little experience with it, and so am not prepared to recommend it so highly as I have done in the cases mentioned.

The only preparations of ergot which I have used to any great extent are the *ergotine*, so-called, of Bonjean,—a French preparation in solid-extract form, which makes a good pill mass,—and the fluid extract prepared by Dr. Squibb. I have been so well satisfied with these two preparations that of late I have used no other; though before Squibb's fluid extract came into market I employed a decoction in water, with the addition of a little sulphuric acid. The doses should be much larger than those prescribed in the books. I have seldom seen much effect from the usual doses, but I seldom miss the desired effect from the larger ones. In a case of spinal meningitis in a child two or three years of age, I would give *at least* two drachms of Squibb's fluid extract in the day, or from four to seven grains of Bonjean's ergotine. Where its use is to be long continued, for chronic hemorrhages, etc., I give commonly about a scruple of the ergotine, daily, to an adult: and to a child in proportion to age; though, as I have before stated, I think that of febrifuges the proportionate dose for children is much larger than given in the books. None of the symptoms of so-called ergotism, whether of the spasmodic or of the gangrenous form, have I seen. I do not believe that ergotism, as it has been described by the older writers, will be found in our country and among a population like ours. The symptoms of spasm, and especially of gangrene so fearful and fatal, were observed in a population starved for years, in countries where the only food was rye; and when

the rye was chiefly ergot, the people had nothing to supply their want. Under such conditions gangrenous ergotism is possible. But here, in a population living on milk, meat, etc., it is impossible as a result of the employment of ergot as a remedy. I have seen no untoward effects from its use; and there is no other remedy that I rely upon with such confidence, in the affections I have pointed out, as upon this.

ALCOHOL.

I have now to speak of another remedy, of much importance, which has not until quite recently been counted among the antiphlogistics—alcohol. It certainly deserves the name of an antiphlogistic, as I propose to show. Like other stimulants—musk, camphor, ammonia, etc.—it has been used in inflammations by Braun and his school. It was perfectly natural that they should employ it thus, because, in their opinion, every inflammation was due to an adynamic condition of the system. The first to use it as a direct febrifuge was Todd, who found that under brandy or strong port wine the pulse became less frequent and the temperature of the body was lowered. True, he did not test the temperature by the thermometer, and so was perhaps less able to judge of it than are we at present. He thought also that alcohol acted as nutriment; and Anstie, as you know, holds the same opinion. Drysdale considered that it passed through the system unchanged, and therefore could not act as nutriment. He regarded it as a stimulant proper, and nothing else.

Since the time of Todd, alcohol has been used in many forms of fever and inflammatory disease. Murchison, regarding it as a very volatile stimulant, gives it in cases of paralysis, particularly paralysis dependent on functional weakness of the nervous centres. He thinks it acts especially upon that portion of the nervous system which serves as the inhibitory centre of circulation and temperature; and that by its aid, without other treatment, many diseases will run through their full course and leave the system unharmed. While Murchison was stating these opinions, a few years ago, Richards was discovering that alcohol lowered the bodily temperature as tested by the thermometer. In our experiments upon this subject, we must not confound the effects of wine with those of brandy. In the latter we have alcohol in as pure a form as we can get for its exhibition; in the former we may have salts of potassa, tannic acid, and other ingredients, whose influence must not be overlooked.

After it had been shown that wine, given in hectic fever, would not increase the temperature, a number of writers, German, French, and English, found that, taken even by the healthy person, in doses of four or five ounces, it would reduce the temperature. So Ringer and Richards observed that the normal afternoon exacerbation of temperature would speedily go down after a few ounces of brandy. The experiments of Bouvier upon himself also conclusively showed that alcohol will lower the temperature in the normal condition. But experience at the bedside is yet more striking. For it is an important fact that all our febrifuges—as we have especially noted of quinine—will act much more decidedly in morbid than in healthy conditions. Similarly we have seen, in the experiments to which I referred at a former meeting, that while irritation of the crural, or other sensitive, nerve, in dogs, would at once diminish the temperature in health, this effect was more strongly marked in disease, as where fever had been excited by the injection of pus or septic matter into the veins. A good dose of alcohol will reduce the temperature by one, two, or three degrees, in a couple of hours, and sometimes in one hour or less. It is found that the reduction of temperature is in direct proportion to the amount of alcohol taken; and those of us who have been in the habit of using it much in practice know that even women and children, who have never touched it in health, will sometimes require immense doses—not ounces, but pints—of brandy in the diseases which demand its exhibition.

Now, if it be true—and it has been so proved—that alcohol will diminish the temperature the most notably in those persons who have not been accustomed to it in health, we should naturally look upon it as one of the principal febrifuges for women, and especially for children. Indeed, a monograph upon this very subject of the use of alcohol in the diseases of children has been put forth by a Frenchman, Dr. Godfrin. In what diseases, then, of children and others should alcohol be given? If it is an antiphlogistic, and will always reduce the temperature, why not give it in every febrile disease? To this I should be opposed. Alcohol should not be given in acute pneumonia, for example; for, when administered in large doses, only a part of the amount will be decomposed, and the remainder will be eliminated unchanged, not only by the kidneys, etc., but to a great extent also by the lungs. Now the lungs, which in acute pneumonia are the seat of congestion and nutritive disorder, would, in my opinion, suffer greatly from any new work put upon them. If the small amount of healthy lung is expected to get rid of this congestion, and to do the work of the whole lungs also, it should be spared the extra task of eliminating alcohol. Moreover, the *local* effect of alcohol is that of irritation. Whatever alcohol entered the lungs would act as a local irritant, and, despite the reduction of the general temperature, might increase the local congestion and inflammation. For this reason I would not give it in other acute inflammatory affections, unless the general condition of the patient required a stimulant in moderate doses. In enteritis, for instance, it would increase peristaltic action by its local irritation, and, therefore, would be contraindicated. But it is indicated in those fevers where we can get the general effect we desire without local injury, as in hectic fever, from whatever cause.

As a stimulant, I give alcohol for its antiparalytic effect. I may say that I regard it as a dietetic agent; and in the hot summer weather I make all my children take a little whiskey or brandy in the water they drink. For if there is anything to which we owe our great amount of intestinal catarrh, etc., it is paralysis of the nervous system from heat; and I find those children who take a little brandy to counteract this, every hot day through the summer, escape the bowel complaints, and do very much better. Like other physicians, I use alcohol in typhoid fever and secondary pneumonia; and most of the pneumonias we have to deal with in children are of this character, and very soon require the use of stimulants such as will at the same time reduce the temperature.

According to my experience, patients who are given alcohol as a febrifuge do not acquire a taste for stimulants. As soon as they begin to eat well they leave off the drinking of their own accord. I am asked how it is in cases of phthisis. In these, it is true, the patients will commonly drink until they die; but, as a rule, I do not make my phthisical patients take much alcohol, although there are some cases, attended by a good deal of fever, where it may do considerable good. I have wished to speak, however, only of those affections in which I have seen a positive indication for its use. In inflammatory fevers after the acute stage has passed by, and in chronic fevers throughout, whenever the

temperature gets very high or the pulse very frequent, alcohol is indicated.

I may once more state here that *camphor*, of which I have spoken at a former meeting, though formerly classed with alcohol as a simple stimulant, has like that the property of reducing the temperature. I have found, I believe, that the effect of alcohol is developed more speedily than that of camphor, but also passes off sooner. If I wished to get a very rapid stimulant effect, I should select, first, sesquicarbonate of ammonia; second, alcohol; third, camphor. Camphor in combination with quinine or alcohol does remarkably well in secondary pneumonia.

A word further also about *opium*, which was also the subject of some remarks some weeks ago. As an antiphlogistic it certainly has its own merits in a number of diseases, but chiefly those of adults. For children, I use it a great deal in enteritis and peritonitis; very seldom in other inflammatory diseases. Now and then, it is true, I employ it as an adjuvant—say, in pneumonia with very severe inflammation and intense irritation; but I have not seen sufficient reason to make it the principal remedy in any inflammatory condition of infants, save peritonitis. That I cannot recommend its wider employment may be due to lack of experience, perhaps because I have been so well satisfied with the other remedies.

LECTURES
ON,
THE PALSIES
AND
KINDRED DISORDERS OF THE NERVOUS SYSTEM.

By MEREDITH CLYMER, M.D.

Lecture VI.

PROGRESSIVE LABIO-GLOSSO-LARYNGEAL PALSY.

In continuing our study of the progressive palsies in their several modalities, we come to one but little known to the profession, and of which all our knowledge has been gained during the past decade; for ten years ago it was always confounded with ordinary facial paralysis, and is still so very generally. In 1841 the late Professor Trousseau saw a case of the kind in consultation, and he seized the main points of clinical significance, but, as he remarks, it remained a dead letter to him, and twenty years later it was recalled to his memory, and he was taught to recognize a new morbid species, by the paper of Dr. Duchenne (de Boulogne) on "Progressive Paralysis of the Tongue, Soft Palate, and Lips," published in the *Archives Générales de Médecine* (1861). And here let me remark how large a debt we owe this eminent and indefatigable observer; he has organized the clinical history of some of the most obscure, important, and interesting diseases of the nervous system, and where before there was either ignorance or uncertainty and confusion, there is now a well-ordered series of unquestioned facts. Since Dr. Duchenne first called attention to this form of palsy, many cases have been observed and carefully reported, along with exact histological examinations; its symptomology is complete, and we are getting definite notions of its morbid anatomy. The first didactic description of it in English I published in 1866. Duchenne now calls it progressive glosso-labio-laryngeal paralysis. It may be defined as:—

A form of local palsy, marked at the outset by incoördination of the muscles of the lips, tongue, and soft palate, with subsequent loss of motor power in these, and certain muscles of the larynx, and, frequently, in particular groups of those of the neck, chest, and arms; of slow development, and gradual and progressive course; the probable constant lesion being structural change in the associated nuclear origins of the motor nerves which are distributed to the implicated muscles, they undergoing pigmentary (yellow) degeneration, and atrophy.

This definition comprises, I believe, all the chief points that are positively known about this interesting affection. It is a palsy involving the lips, tongue, mouth, and larynx, interfering with the functions of eating, talking, and swallowing. The histologist and the physiologist have shown that the essential lesion should be one limited to a given and small physiological area of the medulla oblongata, and the morbid anatomist has proved, by very recent observations, that what ought to does happen; and that the special cell-nuclei, from which the facial, hypoglossal, laryngeal, and vagus nerves arise, and which are closely connected, become seriously damaged in structure, and that this is the starting-point of the morbid processus.

The invasion of true labio-glosso-pharyngeal palsy in its autonomous form is always gradual and insidious. The first symptom noticed is some indistinctness of speech, which if analyzed will be found to be due to the imperfect pronunciation of certain consonants, particularly the linguals and a little later the labials; this is occasioned by some disharmony in the muscular functions necessary to the proper articulation of words, and is soon followed by paresis of the orbicularis oris, certain muscles of the tongue, which is less nimble, and those of the soft palate. Deglutition at times seems difficult, and when eating the patient is liable to frequent spells of coughing, from small particles of food having "gone the wrong way." He notices, too, that saliva dribbles from the corners of his mouth, particularly when he is asleep, and on waking may find a spot on his pillow quite moist. Sometimes this is the earliest trouble. Food, too, may get into the posterior nares, or collect within the lips, or escape from the mouth, and occasion a good deal of annoyance. Mastication is fatiguing, and there is a tired feeling about the jaws after eating. Fluids are very apt to be awkwardly or slovenly drunk, dropping from the mouth after the glass or cup is taken away. Now this state of things may last for weeks or several months, and be looked upon by the patient, or even by the physician, if he should become alarmed and consult one, as a temporary inconvenience which will pass off. But very surely, after a variable period, these symptoms rapidly worsen, and the embarrassment of speech, mastication, and deglutition increases, until they are all very difficult, or almost impossible.

Let us examine the condition of a patient with this palsy in its stage of full development. His physiognomy is distinctive, and almost tells the tale of his trouble. There is a marked contrast between the upper and lower zones of the face; whilst the latter is motionless, the expression of the former is natural; he can wrinkle his forehead, knit his brows, wink and close his eyelids, and the movements of the eyes are perfect. Ask him to laugh, and you see at once that the lower part of the face is immovable, the upper half alone sharing in the act, or, as Trousseau says, "he laughs with his eyes." When the features are in repose you will remark a peculiar lachrymose and stupid look, and on examination will find that it is referable to the palsied orbicularis oris, which is the cause of the drooping lips, and the half-opened mouth, with the corners drawn somewhat upwards, the action of the zygomatic muscles being no longer opposed by the

labial sphincter. He is constantly slobbering, and always has his handkerchief in his hand to wipe his mouth and chin, and often coughs and spits to get rid of the saliva which accumulates in the mouth and throat. Bid him whistle and his attempts are ineffectual, he cannot purse up the lips, so that the necessary sound can be emitted; the same if you place a lighted candle before him and ask him to blow it out; he tries and tries again and fails, for he cannot direct the breath upon the flame; or should he succeed in extinguishing the light, you will observe a violent expiratory effort, as it is done not by the buccal but by the abdominal muscles. Here we have the proofs of the loss of motive power in the orbicularis oris. Examine the tongue; it can still be protruded, but to a much less extent than naturally, getting but a little way beyond the teeth; it has not its convex form, is hollowed along the middle line, and the edges are raised—in other words, it is guttered; the lateral movements are either lost or very imperfect, and the tip cannot be turned upwards. Here is another organ paralyzed in its motility, but its nutrition is good, for its size is not apparently lessened, the color is natural, and special and common sensibility are intact. If we look at the soft palate, we find it drooping, its tip lying sometimes upon the tongue, and very insensible to any irritant, shrinking slowly on its application. It is difficult to determine exactly the nature of the pharyngeal troubles. Inspection often shows no change in the position of the parts; both the anterior and posterior arches appear natural; but the nasal twang of the voice, and the constant return of fluids by the nose in the act of deglutition, show functional weakness in the muscular structure, which strangely enough is rarely susceptible of being otherwise satisfactorily demonstrated, as in the case of the lips and tongue. Whilst we are exploring the throat let us carry our examination a little further, and inquire into the condition of the larynx. The contractile power of the glottis is impaired, for if you cause the patient to take a deep inspiration, and then, when the lungs are fully dilated, to make any muscular effort, you will find that the air escapes so rapidly and violently through the larynx that the flame of a candle placed before the mouth will flicker or be blown out. This simple experiment is conclusive, and is confirmed by the laryngoscope, which shows that the glottis cannot be kept closed, for though the vocal cords may be brought in contact, it is only for an instant, for there is paresis of the thyro-arytenoidean muscles. Moreover, there is more or less falling of the epiglottis and more or less redness of the chink of the glottis, and the adjacent portions of the pharynx. Fauvel was the first, I believe, to indicate as a constant condition in this palsy the large accumulation of frothy saliva in the pharyngo-laryngeal infundibulum.

Let us now ascertain to what degree articulation is affected. It may be that there is actual mutism, a nasal sound only being uttered, and the intelligible pronunciation of a single word, or even letter, impossible. The extent of the malady, and the relative degree of motor weakness in the several implicated organs, are shown by the ability or inability to pronounce certain letters of the alphabet; those, for example, which need the action of the lips (*o, u, b, p, f, v, m*), or such as can be formed only with the aid of the tongue (*d, t, r, l*), or require a special direction of that organ (*s, z*).

The act of deglutition demands, as you know, 1. The preparation of the alimentary bolus by the teeth and saliva, and its collection into a mass by the tongue and buccal muscles; 2. Closure of the mouth during swallowing; and 3. The propulsion of the ball through the pharynx into the œsophagus, effected mainly by the tongue, and the muscles of the anterior arches, so that it must pass by the posterior orifice of the nose and the upper opening of the larynx without touching them. All these acts are imperfectly performed in this disorder, and finally not at all. The tongue, orbicularis oris, and buccinator being paralyzed, fail to dislodge or sweep up the food-ground to a soft pulp, and scattered over the mouth; consequently it collects about the teeth and in the pouches of the cheeks, and the patient endeavors to supplement the lost function by putting his hand over his mouth and on his cheeks, and thus force the passage of food into the pharynx. He is careful to masticate thoroughly, and this is a slow and sometimes difficult process, for the movement of diduction of the lower jaw is constantly weakened. On swallowing he throws his head back, and generally aids the act by drinking. In an advanced stage, morsels of food lodge in the larynx and threaten choking, and require violent efforts to free them. The appetite is good, but it is impossible to satisfy it on account of the small quantity of nourishment that can be taken; and the unfortunate sufferer, in addition to his other troubles, is tormented by constant hunger, and loses body-weight and strength. Coughing becomes impossible, and should catarrh intercur, the sputa is got rid of after terrible efforts, and suffocation seems at times imminent. In most cases there is no complaint of pain anywhere; in others it is felt, and that, too, at the outset, in the occipital and upper cervical regions.

As the disease slowly advances, respiration becomes embarrassed, and there is either continuous breathlessness, or it comes on in spells, particularly at night time; in the former case, along with other signs of defective oxygenation, there is sensible fall in the body-heat. The pulse is rapid, debility increases, the patient takes to his bed, and, propped up with pillows, lies with his head on one side, to let the saliva, which he cannot swallow, dribble from his mouth. In this condition some intercurrent lung disease may destroy life, a common ending, as we have seen, in these progressive palsies; or he slowly sinks from exhaustion, or inanition; or death may happen from the lodgement of food in the larynx, or by sudden arrest of the heart's action.

The most common complication is an extension of the paralysis to groups of muscles of the neck or chest, or of one or both upper extremities. Indeed I am disposed to believe that there are few cases in which sooner or later there is not involvement of most if not all of these muscles. Labio-glosso-laryngeal palsy may occur, too, in connection with progressive muscular atrophy or wasting palsy; cases have been reported by Duménil, Bazire, Charcot, Duchenne, and myself (1866), the initial phenomena being those of the latter disease, the morbid processus travelling upward. And since recent researches have proved the identity of the material lesion both in kind and histological site in the two affections, only occupying different physiological centres, their morbid connection can be readily understood. I shall have occasion in my lecture on wasting palsy to recur to this subject more in detail.

Dr. Duchenne, in his original memoir (1861), clearly indicates the probable *anatomical site of the lesion* in this disorder, reaching his conclusion from a study of the clinical facts without the satisfying proof of physical demonstration, for at that time he had seen no autopsies. He writes: Is not the lesion central? and is it not one and the same, interesting always in their origin, and without extending to the trunks or filaments, given nerves, namely; 1, the hypoglossal; 2, the motors of the soft palate; 3, those of the lips; 4, the spinal ac-

cessory, and, perhaps, the pneumogastric? In some subsequent post-mortem examinations made for Dr. Trousseau by Dr. Lhuys, both the latter and Dr. Duchenne became satisfied that the lesion was in the medulla oblongata, and were led to refer it to a sclerosis of that part of the cord. These examinations were made, however, before the minute anatomy of the medulla oblongata was perfected, and before the several forms of sclerosis of the cord were accurately studied. Indeed, until the exact anatomy of the medulla oblongata, and particularly of the parts found on the floor of the fourth ventricle, had been clearly established by the researches of Dr. Lockhart Clarke, and the internal connection of certain nerves engaged in the act of talking demonstrated, it was hard to positively establish the actual lesion and true pathogeny of labio-glosso-pharyngeal palsy. It is greatly to be regretted that this inestimable contribution, so admirably and convincingly illustrating the intricate relations of complex structures, clearing up many of the most obscure points of the anatomy and physiology of the nervous system, and consequently throwing much light on its pathology, should be in a form which makes it practically inaccessible to the great mass of the profession, and that it can be reached only through imperfect abstracts, or by personal courtesy, The dissections of Clarke show that the facial, vagus, hypoglossal, and laryngeal (internal branch of the spinal accessory) nerves arise from special nuclear cells situally contiguous, and that their rootlets have direct interchanging communications. Now this column of cells, the physiological centre of articulation, and intimately and necessarily connected with deglutition, is precisely the area "picked out" to borrow Dr. Wilks's phrase, to undergo the morbid changes which constitute the lesion of labio-glosso-laryngeal palsy. Anatomy, pathology, and experimental physiology beautifully lend their mutual aid in establishing this fact.

What are the properties of this lesion? I can only, at this time, briefly indicate them, as I shall have occasion hereafter, in the lectures on muscular atrophy and the essential palsy of infancy, to recur to and enlarge upon this interesting subject. I should, however, state at this time that it is to the labors of the Salpetrière School—to Dr. Charcot and his pupils—that we owe this important discovery of the real morbid processus in these disorders. What is the nature of the tissue-changes in these nuclear matrices, in these parent nerve-cells, of the *articulating and swallowing tract?* It may be told in a few words. It consists of *yellow pigmentary degeneration, with atrophy of the processes, nucleus, and nucleolus of the nerve cell.* The initial fact would seem to be the accumulation of pigment, the atrophy of the histological elements being secondary. Is the morbid processus active or passive? Is it or is it not preceded, or accompanied, by an irritative movement? This question we are not yet in a position to answer decidedly. There is reason to believe that the processus begins in the nerve-cell, that *it* is primarily attacked, and that the observed changes are not the results of exterior or communicated irritation, for the neuroglia or reticulum is unaltered; there are no traces of connective proliferation, or of fibrillary metamorphosis, nor any multiplication of myelocytes, nor areas of granular disintegration. Indeed, on comparing prepared sections of the same districts of the medulla oblongata affected with disseminated sclerosis, and those from subjects of this palsy, the different conditions of the connective tissue is evident. With our present lights we can, therefore, hardly admit the influence of an irritament acting first on the connective gangue, and thence propagated to the little nerve-centres. Through the kindness of Dr. Edward C. Seguin I have had an opportunity of examining the preparations of Dr. Charcot, illustrating the morbid histology of labio-glosso-laryngeal palsy, and of satisfying myself of the accuracy of his descriptions. I may add here that in those cases where the muscles of the neck, shoulder, and arm have been unilaterally affected, a similar condition of the nuclear origins of the nerves going to those parts has been found. But more of this at a subsequent time. The atrophied muscles are of a yellow color, and have undergone fatty degeneration. Though during life no change in the size of the tongue can be detected, the muscles after death are found altered and atrophied.

Duchenne's anatomical theory, broached ten years ago, founded on physiological induction, and now supported by indubitable histological facts, structural and pathological, admirably illustrates the mechanism of the series of clinical phenomena I have described. The initial trouble in sounding the labial and lingual letters, with the progressive embarrassment of articulation, until it is finally extinguished; the increasing difficulty of deglutition, with its attendant annoyances; the paresis of the muscles of the soft palate shown by the nasal voice; the lessened ability of diduction of the lower jaw; the weakened expiratory act, and the hurried action of the heart towards the terminal period, all are explainable by the damage which has been done, or is doing, to that federation of nerve-cells in nuclear communities which are echeloned along the floor of the fourth ventricle, and are, by means of multiple fibres, in connection with each other; and from which proceed the nerve-threads which carry from these centres the regulating current to the parts participating in the functions of talking, deglutition, and partly of respiration.

I can tell you nothing about the causes of this palsy, for nothing certain is known of them. So far all is conjectural, and I will not take up your time by talking of heredity or other unsupported hypotheses.

I will now briefly mention some of the affections with central injury of the nervous system that may be, and have been, confounded with labio-glosso-laryngeal palsy, and point out the *differential diagnosis.* In the first place, you may have paralysis of the vocal and articulating organs from damage to the special centres in the medulla oblongata other than that which I have described as the anatomical character of labio-glosso-laryngeal palsy. There may be hemorrhage about the origin of the nerves distributed to the tongue, lips, and pharynx, followed necessarily by about the same difficulties of speech and deglutition. Of such kind are the cases reported by Hérard, Proust, and Hughlings Jackson, and I believe that some of Dr. Wilks's, in the last volume of *Guy's Hospital Reports,* may be put in the same category. Or the mischief may be supra-bulbar, in the pons varolii, cerebral peduncles, corpora striata, as in Cornillon's case, where the autopsy showed disease of the corpus striatum and hemorrhage of the pons. But in these cases the onset is always sudden, and there is more or less hemiplegia; whereas in labio-glosso-laryngeal palsy the invasion is gradual, and the loss of articulation progressive. Such attacks are often recovered from, at least for a while, but there is always a risk of recurrence.

Double facial paralysis is very rare, and the hypoglossal nerve not being implicated, deglutition is not hindered, and the articulation of certain letters only, as *o, u,* is imperfect. All the muscles of the face are involved, the physiognomy is pathognomonic, the expression being blank and fixed, the patient seeming, as Duchenne says, to cry and laugh behind a mask.

In the general palsy of the insane—progressive general paresis—there is, at the beginning, the same

difficulty in uttering certain letters, especially the labials, as in labio-glosso-laryngeal palsy, and from the same cause, muscular incoördination; but the mental exaltation, the characteristic feeling of weariness in, and feebleness of, the lower limbs, the mask-like, doughy, facial expression, the constant twitching or tremulousness of the lips, and easy deglutition, &c., should make the differentiation of the two diseases facile, even to one not an expert.

Some cases of diphtheritic paralysis resemble more or less closely, at first sight, labio-glosso-laryngeal palsy; but here, besides the history of the case, you will find the force of the malady expended on the muscles of the pharynx, and, often, in a more or less degree, on those of the larynx, and that the chief difficulty is in swallowing, and sometimes in breathing.

I have seen a simulated type-case of this palsy in its developed stage in an hysterical girl—not the mutism so common in the temper-form of this dramatic disorder, but the rapidly progressive articulating and vocal troubles, and almost impossible deglutition; and very obstinate it was, and threatening too, from the difficulty we had in nourishing the patient.

I will not think that there can be any one so careless as to make a mistake in cases of the laryngeal neuroses, for even here the patient can nearly always speak in a whisper; or so uninformed, as to confound this palsy with aphasia, in which the legislative factor—the talk-centre—is at fault, whilst the executive factors, the muscles of the lips, tongue, palate, and larynx, are whole. There is no mechanical hindrance to speech, for the aphasic may be fluent with his meaningless gabble, whilst in the buccal paralytic capability of utterance is totally gone or is very small.

The progress of labio-glosso-laryngeal palsy is, as I have before said, often for a while slow, the articulation troubles and dribbling of saliva from the mouth, and some slight impediment of mastication and swallowing, being the only noticeable symptoms. In this state the patient may continue for months, or, exceptionally, for several years. So soon, however, as deglutition becomes sorely embarrassed, the expiratory act feeble, and the pulse very quick—sometimes the rate reaching to 150 and 200, owing to the cardiac complication—its course becomes rapid, and death happens in one of the ways already mentioned. It is doubtful if recovery has ever taken place in any case of the pure form of this palsy, that is, where it depended on the essential bulbar lesions; when cures have been asserted there were instances of its counterfeit presentment from, probably, bulbar or supra-bulbar hemorrhage. Dr. Trousseau says: "I do not believe that a single case of this disease is on record where its progress has been arrested even for a few months." Again, he says: "In the two first stages of the disorder the physician can perhaps not completely arrest its progress, but at least he can prevent it from being so rapid, and can relieve for a while; but his power does not go beyond this." I fear we are not yet able to gainsay this assertion of the lamented French professor. Now that we know the nature of the material change in the nervous centre, the prospect of successful interference hardly brightens. If we may hope for some success it can only be at the very outset, and then we do not see the case, or seeing it too often fail to recognize its character. Two cases of progressive disease of the cord in which I have been recently consulted, one of locomotor ataxy, and the other of disseminated sclerosis, had both been treated for sprained ankles and weakness in the legs, with no suspicion of their true nature. In this way precious time is lost, vital to the patient, and with the risk of prolonged misery, or even of life. The means I have before so often insisted on as the only rational method of treatment in this class of affections due to local nutritional errors, will give, I believe, if we have the opportunity of trying it in the early stage, the best chance for arrest if not cure. Later on all treatment must be hopeless. Relief, however, can be afforded by electricity, which temporarily restores, in a degree at least, the function of the palsied muscles, lessens the buccal and pharyngeal secretions, alleviates the difficulty of swallowing, and betters breathing by exciting the respiratory muscles.

Dr. Duchenne still insists on the efficacy of faradism, but the proofs of cure, or even arrest, by this means are wanting. The strongest evidence in its favor is Pellizari's case related by Tommasi; but here there was actually only improvement, and in this state the patient left the hospital, no further record being given, and the hope expressed that a permanent cure would result—the too common butt-end of such reports, which are so often mere springes set to catch the unwary, demoralized sufferer, and cheat him with impossible and unfulfilled promises. I believe that in the earlier stages the constant current is better suited to these cases than the induced, which I think I have seen do harm; whilst later, when the paralysis is declared, local faradic electrization gives much help and comfort.

CLINICAL LECTURE ON LITHOTRIPSY.

By J. W. S. GOULEY, M.D.,

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GENTLEMEN—The patient who is now before you, suffering from stone in the bladder, has already been subjected to six sittings at *lithotripsy*, and will afford me the opportunity to give you some practical hints in regard to the *modern* method of performing the operation.

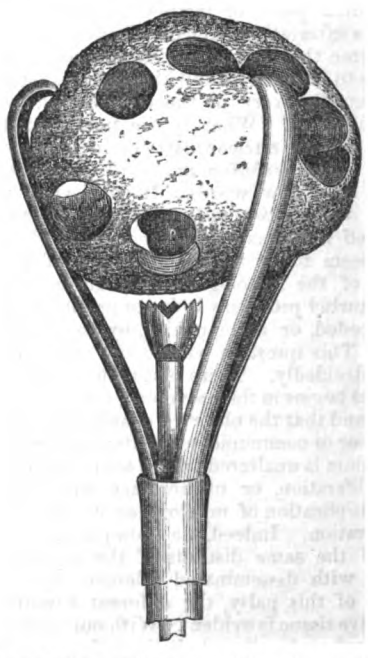

FIG. 1.—The vesical extremity of the trilabe and perforator, such as Civiale used in his early operations, showing a perforated calculus within the grasp of the instrument.

For the removal of this troublesome ailment, cutting operations had been almost exclusively resorted to until 1824, when Civiale demonstrated, by several successful operations, that vesical calculi could be reduced to powder or broken up into fragments small enough to be expelled with the urine; all this was accomplished without a stroke of the knife. At the time M. Civiale made his discovery he was not cognizant of the efforts—in the same direction—of the Bavarian surgeon Gruithuisen, nor was the latter aware that the ancients had sometimes resorted to successive perforations and to crushing for the destruction of stone in the bladder.

Fig. 2. First model of Weiss' lithotriptor.

The method by successive perforations with straight instruments continued to be employed on the Continent by Civiale, Leroy d'Etiolles, Heurteloup and others, until 1831, when Dr. Jacobsen of Copenhagen devised a curved instrument known as the brise-pierre-articulé; but this was not the first curved lithotriptor, for Mr. Elderton had produced one as early as 1819, and in 1824 Mr. Weiss, surgical cutler of London, constructed a curved stone-breaker (Fig. 2) which was first used by Sir Benjamin Brodie, who afterwards greatly improved it.

After having seen the last-named instrument, Baron Heurteloup conceived the idea of his "percuteur courbé à marteau," which he described in the "Mémoires sur la lithotripsie par percussion" presented to the French Academy in 1833. He found the curved percussor of easier introduction, and better adapted to seize and pulverize the calculus, than were the straight instruments, and he called the operation *lithotripsy*, which conveys the idea of *pulverization*, while *lithotrity* means *perforation* of the stone. Our *modern improved lithotriptors* are all modelled after Heurteloup's curved percussor, but the shape of the blades has been so altered as to guard against injury to the mucous membrane of the bladder; besides, pressure by means of the screw, and the rack and pinion, has been substituted for percussion. Their superior, and at the same time simple construction renders the operation very much easier, safer, and more rapid than it was formerly.

Lithotrity was successfully performed in this city in the latter part of 1830, by Dr. Depeyre, who used the trilabe and perforator of Civiale.* He was followed by Dr. J. Randolph of Philadelphia, who made his first trial in September, 1832, with the trilabe also, completing the operation with Jacobsen's brise-pierre-articulé. (Figs. 3 and 4.)

Dr. Randolph has given accounts of nineteen cases of stone in the bladder, with one death; in nearly all of them he employed the brise-pierre-articulé with great satisfaction and no untoward accidents.†

Dr. Gibson of Philadelphia gave his preference to Heurteloup's instrument.

Among other surgeons who have frequently resorted to the operation in this country, are Drs. N. R. Smith of Baltimore, Pancoast of Philadelphia, Buck, Post, Van Buren, and Wood of New York.

These few facts bearing upon the history and progress of lithotripsy will suffice for our present purpose, and will not occupy your time with details which you can learn from books. If you wish to become erudite, let me refer you to the early works of Leroy d'Etiolles, Civiale, Amussat, Heurteloup, and Ségalas, which contain all that is worth knowing about the early history of the subject.

Fig. 3.—Jacobsen's instrument closed for introduction.

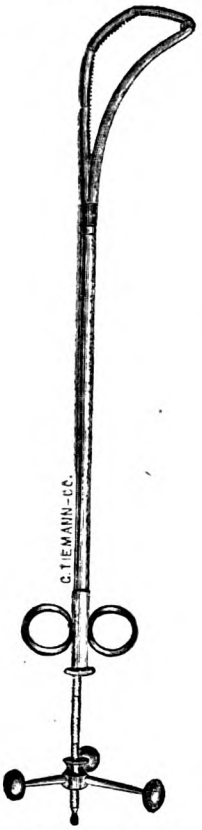

Fig. 4.—Jacobsen's instrument opened for seizure of the stone.

The treatment preparatory to lithotripsy is of the utmost importance, and upon it will frequently depend the ultimate result of the operation. When a calculous patient presents himself to you, do not at first attempt to sound, but allow him a few days' rest in the horizontal posture, with a pillow under the hips, in order that the stone may roll back to the less sensitive part of the bladder. Ascertain whether he has acquired the habit of using opiates to relieve pain; if so, diminish the dose gradually until he is able to abstain from the drug; meanwhile let his bowels be properly regulated. Diluents, tonics, and a nutritious diet will together make an excellent substitute for the narcotics, and will do more than anything else to tranquillize his nervous system and improve his general health. He should be directed to micturate only while lying down, that the calculus may not be forced against the vesical neck; it may be difficult at first, but in a few days he will experience no trouble in emptying his bladder by turning to one side or the other, or even when upon his back. Do not permit him to get up until this is accomplished, and the urine can be retained for one and a half or two hours. The first exploration should be made with soft bulbous bougies, to estimate the calibre of the urethra and ascertain its degree of sensitiveness. If the meatus urinarius is too narrow to admit

* See *New York Medical Journal*, February, 1831, p. 388.
† *American Journ. Med. Sciences*, Nov. 1834, Nov. 1836, Nov. 1837, and *Medical Examiner*, Vol. I., 1838.

a fair-sized lithotriptor, it should be freely incised. The bladder is then explored with a searcher,—Thompson's is, I think, the best,—that an approximate idea may be formed of the size, number, and character of the calculus or calculi. If the general health of the patient is good, and his urinary organs are in a fair condition—if, in a word, there is nothing to contra-indicate the operation of lithotripsy, the next step in the preparation of the patient is to introduce into the bladder, on alternate days, steel sounds of increasing size, so as to distend the urethra even up to No. 15 or 16 of the English catheter scale. This accustoms the parts to the contact of instruments, and the patient, at first timorous and sensitive, is soon anxious for the first crushing. Afterwards a lithotriptor should be introduced, the stone seized and measured, and, while it is in the grasp of the instrument, rotation to the right and left and a back and forth movement should be made, in order to ascertain the presence of other calculi. This procedure may be repeated in four or five days. Having thus become familiar with the case and obtained the patient's full confidence, give him a day's notice for the first sitting; let him take an enema on the morning of the operation, and lie abed with a pillow under the hips at least an hour before the time appointed. The duration of the preparatory treatment should depend upon the state of the patient's general health, the degree of tolerance of his bladder and urethra, and the size and quality of the stone. In a simple case, one week's preparation will suffice, while in others from four to six weeks may be required.

I exhibited to you on a former occasion nearly all the different instruments which are obsolete, without giving you any detailed description of them, nor will I attempt to do so to-day, for my object is to teach you the *modern* method, and I shall endeavor to abstain from any remarks which are not essentially practical. As I shall frequently appeal to your sense of sight, my description of the instruments now in use will be brief. Bear in mind that the first thing to be accomplished in lithotripsy is the reduction of the stone to fragments, and the next is the pulverization of these fragments, that the detritus may be expelled without creating much irritation in the urethral mucous membrane.

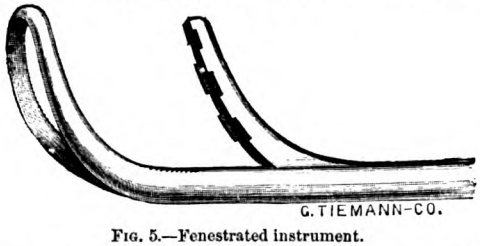

FIG. 5.—Fenestrated instrument.

The modern lithotriptor consists of two blades (Fig. 5), the shaft, the sliding-rod, and the handle. The two blades together when open are sometimes called the jaws, and when closed, the beak. The blade that is immovable and fixed to the shaft is called the *female*, and receives the *male* blade, which is continuous with the sliding-rod, and is susceptible of a back and forth movement. I now indicate to you the average curve of the beak (Figs. 5 and 6): the less the angle the greater the power, and, vice versâ, the greater the angle the easier the introduction. The beak ranges from No. 10 to No. 15, for adults.—For fragmentation of the stone, the better and safer instrument is the fenestrated lithotriptor (Fig. 5), because of its great power and strength. For pulverization, use the instrument with plain blades (Fig. 6); the male should be narrower than the female blade, to enable the operator to force out the impacted detritus. But the operation can be completed with the fenestrated lithotriptor, and it can also be begun and terminated by means of a strong instrument with plain blades. The scoop lithotriptor is no longer in use, and has been

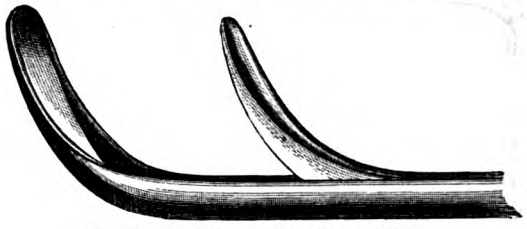

FIG. 6.—Lithotriptor with narrow male blade.

replaced by the plain-bladed instrument just mentioned, and which Civiale calls his "lithoclast."—The shaft should be at least ten inches in length, and not less than two numbers smaller than the beak. The motive-power resides in the handle of the instrument. M. Charrière of Paris deserves much credit for having made a very simple but important alteration in the mechanism of the screw lithotriptor by his adaptation of the *écrou-brisé*, which is a nut consisting of two segments that can be approximated or separated instantly by turning the movable disc in the handle; in this manner the screw-power can be applied or detached at will, so that the male blade and sliding-rod can be fixed, or can be withdrawn to the required extent without unscrewing. (Fig. 7.) This is a very valuable improvement, inasmuch as economy of time is of the greatest moment in the operation.

FIG. 7.—Handle of Charrière's instrument.

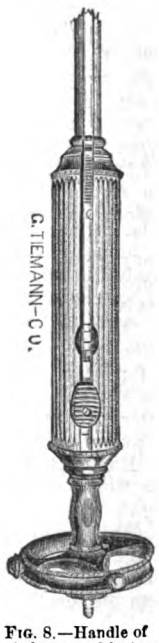

FIG. 8.—Handle of Weiss's improved instrument.

The same motive-power is adapted to the English instrument, with the substitution of a sliding button (Fig. 8) for the disc: you observe that here the handle is cylindrical, and much more convenient for manipulation than the French. Both of the instruments I now show are of equal weight (7½ oz.), although the English looks larger and heavier.

The patient should be placed in the horizontal position, upon a firm bed or a table such as you see, and

his pelvis should be elevated by means of a hard hair or straw pillow placed beneath. Formerly the bladder was injected with six or eight ounces of warm water, but now this is entirely done away with; the urine is simply allowed to accumulate to five or six ounces, and no instrument, save the crusher, is introduced. If the patient has been carefully prepared for the operation, no difficulty will be experienced in the introduction of the lithotriptor. I would like you, however, to remember always that the curve of the instrument differs materially from an ordinary catheter, and that the same rule for introduction will not apply to both. To pass the lithotriptor into the bladder successfully and without doing damage to the parts, you have but to adopt the directions given by all modern lithotriptists; they are briefly as follows:—

Stand upon the right of the patient, with your back half turned towards the head of the bed or table, and having warmed and oiled the instrument, seize the penis laterally behind the corona with the left thumb and index, and keep it in the vertical position; then, holding the lithotriptor horizontally with the right hand, so that its long axis is at a right angle with the patient's body, introduce it gently and slowly, altering the position by a gradual sweep until it is brought to the perpendicular, and has reached the bulbo-membranous junction of the urethra. Keep it in this position for a moment, when you will feel it sliding into the membranous portion; then depress the handle between the thighs until the instrument has passed the prostatic portion, and it will enter the bladder, and come in contact with the stone by being pushed onward. Should you endeavor to introduce it as you would a catheter, the upper wall of the urethra in front of the triangular ligament would surely be torn across; an accident which might prove very serious. The introduction of the lithotriptor is perhaps the nicest and most important step of the operation; unless it is properly performed, you need expect but the most untoward results.

The next point is to find the stone and get it between the jaws of the instrument. Remember that the field of operation is very small, that the instrument must be kept in the median line, and that it should interfere with the coats of the bladder as little as possible, or, to use Thompson's words, "the operator should exert the largest amount of influence on the stone with the smallest amount of disturbance to the bladder." There are two modes employed to seize the stone. In one, Sir Benjamin Brodie's, the blades are depressed on the basfond and posterior wall of the bladder so as to make them the depending portion, where the stone is likely to roll; then the male blade is withdrawn, and in the majority of instances the calculus will fall between the jaws of the instrument. If the stone is not caught, a gentle stroke may be given with the fingers to the handle of the lithotriptor, and, as Brodie says, "the slight concussion thus communicated to the bladder will be sufficient to dislodge the calculus and bring it within the grasp of the instrument." Here the object is to bring the stone to the instrument, while in the other (Civiale's method) the instrument is applied to the stone, and as little movement as possible is made. As the lithotriptor enters the bladder, the beak is slightly turned to one side, and then to the other, to ascertain the position of the calculus. The moment it is felt, the instrument is turned toward the side opposite the stone and pushed onward into the bladder, the male blade is cautiously withdrawn, then the open instrument is turned over on the side of the stone, is closed, and the foreign body seized. —To Sir Henry Thompson, who, after Civiale, has had the largest experience in lithotripsy, and has done so much for its advancement, belongs the credit of having greatly perfected and simplified most of the details of the operation, and I am only repeating what he teaches. He describes five positions to be given to the vesical extremity of the lithotriptor in order to find and seize calculi or fragments; they are the "vertical, right and left incline, right and left horizontal," and they enable the surgeon to explore the bladder in the "middle, right, and left."—The calculus, once caught, is fixed between the jaws of the lithotriptor by one or two slow turns of the wheel; then it may be turned more rapidly, until the stone is fractured, when the screw-power is detached, the male blade withdrawn, and fragment after fragment is caught and crushed, perhaps to the extent of four or five; but the sitting should not exceed five minutes—make it three, if possible.

After this, the first sitting, a hot fomentation is applied to the hypogastrium; the patient is kept in the horizontal posture for twenty-four hours, is directed to micturate only while in that position; and all the urine he passes is strained, and the detritus preserved. For the first twenty-four hours scarcely any fragments will be expelled, and it is all the better, for their angularities are soon smoothed by mutual attrition in the bladder, and those which remain longer become water-worn, and cause little or no irritation in their outward passage. Small calculi are often destroyed at one sitting, but larger ones require five, six, and sometimes many more. If the first sitting has not been followed by any accidents, and the stone is neither too large nor too hard, allow four or five days to elapse before the second sitting, when you should use the lithotriptor with a narrow male and flat female blade. (Fig. 6.)

If you can always reduce a stone to powder, you will not require more instruments than those already mentioned; otherwise, you will sometimes have need of the urethral lithotriptor and the long slender forceps for the extraction of fragments impacted in the urethra. If the bladder and urethra are in a fair condition, you will seldom have occasion to use injections and evacuating catheters, for you may confidently expect the complete and spontaneous expulsion of the detritus. In pulverizing fragments, a certain amount of débris will almost always be impacted between the blades, and unless the instrument is properly constructed, you will not be able to get rid of it, and, in withdrawing the lithotriptor with its jaws only partially closed, the neck of the bladder and urethra may suffer. It is only with the improved lithotriptor that the detritus can be properly expelled from the beak; here the male blade is not only narrower than its fellow, but it is slightly bevelled from the centre to the edges on the crushing surface, and acts upon the mud-like detritus after the manner of a wedge, and instead of scattered teeth-like projections to prevent the stone or fragments from slipping away, as in the ordinary instrument, it has oblique serrations, which also serve as gutters for the better expulsion of the soft débris. The manipulation necessary to drive away detritus impacted between the blades is described in a few words by Civiale. He says the surgeon grasps the handle of the instrument with the left hand, while with the right he executes upon the wheel slight movements of semi-rotation that approximate and separate alternately the jaws, which act upon the accumulated calculous matter so as to drive it out by the interval between the blades when closed.

Before I proceed to illustrate the principles of modern lithotripsy by crushing some of the fragments which remain in the bladder of our patient, let me give

you the result of the case which some of you saw here in June last.

The patient, a man aged twenty-four, had been afflicted with calculous disease for fourteen years; otherwise healthy. Latterly his symptoms had become so urgent that he was compelled to seek surgical aid; he resorted to this hospital for treatment, and was kindly transferred to me by my colleague, Dr. Sayre, in whose service he had been. He was then suffering greatly from vesical tenesmus and very frequent micturition; but after a few days' rest in the recumbent posture, he improved sufficiently to undergo a critical examination. There was nothing found to contra-indicate the operation of lithotripsy, and he was prepared; in three weeks he was in excellent condition for the first crushing, and within two months from the date of his entry he was dismissed, cured. During the whole course of the treatment he had scarcely an untoward symptom. Only one of the seven sittings which he underwent was fruitless; and he passed altogether two drachms of detritus which I now show you. Observe that there are no fragments which could not have passed easily through the urethra of a boy twelve years old, and that the larger proportion of the detritus is powdered. The calculus is phosphatic, with a small uric acid nucleus which you will find among the fragments. This case was attended with no complication, and progressed to a speedy and happy termination. Both the fenestrated and plain-bladed lithotriptors—Weiss's last model—were used, and there was no trouble in finding and pulverizing the last fragments.

Our patient of to-day arrived in the city on the 13th of July, consigned by Dr. Wm. Cunningham, of Clarke Co., Ky., to my excellent friend and preceptor, Dr. Van Buren, who asked me to take charge of him. He is 27 years of age, of good constitution, and has had symptoms of stone for nine years.

The preparatory treatment in this case lasted one month, on account of cystitis. Two calculi were discovered; one measuring 1¼ by 1¼ inches, the other 1 by 1¼ inches or thereabouts. The first crushing was effected August 13th, with the fenestrated lithotriptor, and the smaller stone broken up; by August 17th he had passed 29 grains of detritus, with some angular fragments, but no urethral inflammation had supervened. The second sitting was productive of but 8 grains. At the third sitting the other calculus was seized and crushed, much more force having been required to break it. Fourth sitting, Civiale's lithoclast was used, and five grains were brought out. At the fifth sitting, the fenestrated instrument was used once more, and this because there remained one or two large fragments of the harder concretion which required the more powerful lithotriptor. Sixth sitting:—The improved English plain-bladed instrument was employed, several fragments powdered, and the impacted detritus readily expelled from the beak. The detritus thus far collected amounts to 144 grains. and is contained in the vial which is here for your inspection. Compare it with the other, and you will notice that there are more angular fragments, made as you know by the fenestrated instrument, and that the proportion of powder is less.

Now the patient is in proper position; observe that his pelvis is elevated about 2½ inches, his heels close together, his knees separated, and his legs and thighs a little flexed. At this, the seventh sitting, the improved English lithotriptor with plain blades will be used. Watch the manner of introduction. Now I stand upon the patient's right, and, seizing the penis as before described, I pass the instrument into the urethra;—it is progressing with apparent slowness—it has already reached the bulbo-membranous junction and assumed the vertical direction. Now that I feel it entering the membranous portion, I begin to depress the handle between the thighs—the beak has reached the bladder and is in contact with a fragment. The blades are opened, turned to the left, and the fragment, ¼th of an inch in size, is caught; now I crush it. Opening the instrument again, I seize another small fragment and powder it—a third fragment is crushed; and now, by a few quick short turns of the wheel to the right and to the left, the detritus is nearly all expelled: the blades are closed, and the instrument is withdrawn. The lithotriptor was very little over one minute in the bladder. I have made this a short sitting, because the passage of angular fragments had previously caused a little irritation; the other sittings have varied from two to five minutes. The patient will walk down to his ward and remain quiet until to-morrow, when he may get up if he feels so disposed.

The next patient to be placed upon the table is a complicated case—65 years of age—has an enlarged prostate and a perineal fistula, which followed lithotomy performed last spring. It appears that the stone was broken during extraction, and in a few months, symptoms of calculus recurring, he was lithotriptized (in July last); but all the fragments were not extracted. Still suffering from his old symptoms, he was sent to the hospital, and came under my care. Time will scarcely permit me to give you all the details of this case, but I hope soon to do so. Here is a little detritus which I have taken from his bladder at previous sittings by means of Civiale's lithoclast and the evacuating catheter. The pelvis of this patient, as you see, is more elevated than was the last, for obvious reasons. The instrument will not be kept in his bladder more than a minute, if possible. You see there is no difficulty in introduction. The blades are opened, turned to the right and left, then reversed, but nothing is seized; nor can any fragments be caught by the method of Brodie: possibly there are no more, but in the course of four or five days another attempt will be made. The instrument is withdrawn, and you see there is nothing between the blades.

There are other points in the modern operation which I shall not have time to give you to-day, but I shall take an early opportunity to dwell upon them, and to give you the statistics of the French, English, and American lithotriptists. I cannot conclude, however, without exhorting you to pay the strictest attention to the details of the operation; for, as says the eminent English surgeon, lithotripsy negligently performed is worse than if not done at all.

Original Communications.

A CASE OF ŒDEMA GLOTTIDIS

IN WHICH

A PATIENT WAS RESUSCITATED BY THE OPERATION OF TRACHEOTOMY AFTER RESPIRATION HAD CEASED.

REPORTED BY GURDON BUCK, M.D.,

SURGEON TO THE NEW YORK HOSPITAL, FELLOW OF THE NEW YORK ACADEMY OF MEDICINE.

On Sunday evening, Nov. 23d, 1851, about 10 o'clock, at the request of Dr. M. Morris, my former pupil, I visited John Vance, an Irish laborer, 23 years of age, at the house of his employer, Mr. Gallagher, on the corner of Fifth avenue and 57th street. We found the patient sitting up in bed and suffering from extreme dyspnœa; his breathing was hurried and labored. In-

spiration required great effort, while expiration was comparatively easy; his face was livid, his lips purple, his eyes prominent and suffused, his countenance extremely anxious. His whole body was drenched in perspiration; his pulse was 98, full, strong, and bounding. His intellect remained clear and undisturbed; he appeared to understand perfectly every question put to him, and though he made the utmost effort to reply, he was unable to articulate a single syllable, the voice being entirely extinct. Deglutition was almost impossible.

On the Saturday evening previous, without preceding indisposition, the patient first perceived soreness of his throat, which increased the following morning. He was also otherwise indisposed, and took no food at breakfast. During the forenoon of Sunday he imprudently exposed himself with his throat uncovered, and at 12 o'clock was first sensible of difficulty in breathing. At 4 o'clock P.M. other members of the family remarked that his voice was very much changed; about the same hour he ate with tolerable facility a bowl of stirabout and milk. Towards evening his symptoms increased in violence. Dr. Morris saw the patient first at 9 o'clock, and found him in a state of desperation, tearing his hair, grasping at everything within his reach, and frantic to obtain relief from impending suffocation. He found the epiglottis swollen nearly to the size of the end of his thumb, pulpy and folded upon itself, so that its edges touched each other at the summit. The velum and uvula as well as the fauces were much swollen. The doctor at once resorted to free scarifications of the velum and uvula, which he made with a sharp-pointed bistoury. They bled freely and afforded marked relief.

Not willing, however, to rely on these means alone in such imminent danger, Dr. Morris lost no time in obtaining assistance. Happily for the patient, as the sequel will show, I provided myself on leaving home with a trachea tube and scarifying-knife for the larynx. When we reached the bedside of the patient, Dr. M. remarked, that though the patient was more tranquil, his symptoms were more alarming than at his first visit. The bleeding from the scarifications already made continued remarkably free, so that at short intervals the patient spit blood by the mouthful. The danger of suffocation was imminent, and no time was to be lost in endeavoring to afford relief.

The patient was assisted to sit upon a chair, his head, thrown a little back, was supported by one of his companions, and a cork held between the molar teeth of the left side. Placing myself in front of the patient, I passed my left forefinger in at the right angle of the mouth, over the tongue, till it reached the epiglottis, which was found swollen, pulpy, and folded upon itself as already described, overlapping the epiglottis. I pressed it forward towards the base of the tongue, and then conducted the scarifying-knife along the back of my finger till it arrived at the nail, when I elevated the handle of the knife and consequently depressed its blade, so that its cutting edges descended into the larynx between the swollen aryteno-epiglottic folds which bound its entrance on either side. To scarify these swollen œdematous walls, a slight semi-rotary movement was given to the knife, first to one side, then to the other, in the act of withdrawing it.

The effect of this operation was watched with anxious solicitude. The blood continued to flow freely from the previous scarifications, but no relief of the urgent symptoms was perceptible. I now remarked to Dr. M., I was afraid it would be necessary to resort to tracheotomy. After waiting a few moments longer I repeated the scarifications in the same manner. On withdrawing my finger with the knife, I at once noticed that the blood no longer flowed from the patient's mouth as before, and that his breathing was suspended, though without any spasm or struggle. His countenance was changing, and losing all power to remain in an erect position, he sank down from his chair upon the floor in a state of complete relaxation and insensibility. His features were assuming a death-like expression, and respiration was recurring only at longer intervals and with rapidly diminishing force. In a word, the patient was literally dying.

Kneeling over him, as he lay stretched upon the floor, I proceeded with the least possible delay to open the trachea and insert the tube I had brought with me. Dr. Morris with one hand held a dim lamp, and with the other supported the head, to prevent it rolling to one side. My left forefinger, being placed upon the crico-thyroid space, served to keep the parts steady and to determine the starting-point of my incision, which was carried as exactly as possible along the median line, two inches downwards, over the trachea. After cutting through the skin, the division of the deeper tissues was guided entirely by the touch, without regard to hemorrhage, my aim being to arrive at the three or four upper rings of the trachea. As soon as these could be distinctly felt by the finger, the knife (which was a straight French bistoury) was plunged perpendicularly into the trachea. Its entrance was accompanied with a slight hissing noise. In endeavoring to enlarge the opening downwards with a blunt curved bistoury, some delay and embarrassment arose from the edges of the wound overlapping the opening in the trachea and preventing the entrance of the knife; the enlargement, however, was effected, and the tube at length introduced. Instantly blood welled up through the tube, from the trachea, which doubtless had flowed into it from the fauces as well as from the external wound. I immediately applied my mouth over the tube and sucked up the blood from the trachea, repeating the process several times in quick succession; I also breathed into the trachea to inflate the lungs. Soon, to my unspeakable satisfaction, an effort was made to expand the chest, followed by a bubbling of air through the tube; this was succeeded by renewed efforts, at intervals gradually diminishing in length, till respiration finally became re-established, but not without fears that the success of the operation might be prevented by the profuse hemorrhage from the wound, which constantly flowed into the trachea. However, by pinching together the edges of the wound around the tube, and promptly wiping away the blood as fast as it was expelled from the trachea at each expiration, and also occasionally repeating the suction, this formidable difficulty was at length surmounted, the hemorrhage gradually ceased, and the trachea freed itself from obstruction.

The patient's countenance slowly resumed a natural expression and the lips lost their livid purple hue. His pulse, which, till now, it had been impossible for either of us to examine, had become steady, though considerably reduced in force. Consciousness soon returned, and within half an hour we left our patient in a most comfortable condition, breathing with perfect tranquillity through the tube, and with the prospect of enjoying a quiet night.

On Monday morning, at 10 o'clock, twelve hours after the operation, we found our patient had passed a comfortable night, though he had slept but little, from fear of trusting himself to sleep. Respiration was performed through the tube without the slightest effort; the secretion from the trachea was slightly discolored with blood. A fresh tube, with a large opening at the bend on the convex side, was substituted for the one

he had worn since the operation. On closing the outer orifice of the tube the patient was able to breathe through the larynx with a moderate effort, and also to speak in a distinct whisper, showing conclusively that the obstruction in the larynx, from œdema, had already diminished to a considerable degree. The epiglottis was felt to be less swollen and less folded upon itself. Deglutition was also less difficult; pulse moderately accelerated, without fever. Ordered to take one ounce castor oil, and restrict himself to gruel for nourishment. The tube to be changed at evening.

Tuesday, the 25th, at 10 o'clock A.M., found the patient progressing very favorably. He had slept well, his bowels had been freely evacuated, and the tracheal secretion had lost its bloody tinge. After inserting the perforated tube as before and closing the outer orifice, it was found that the obstruction of the larynx had still further diminished, respiration was performed with less effort than the day previous, and the patient now spoke in a clear, full tone. Deglutition had further improved; the swelling of the epiglottis remained about the same. The pulse was 96, and of good strength. Cough seldom occurred. Patient was allowed his favorite dish of stirabout and milk.

Wednesday morning, the 26th, patient continued doing well in every respect. Respiration through the larynx scarcely required any effort. Preparatory to the entire removal of the tracheal tube a cork was left in its outer orifice and the patient instructed to remove it himself if necessary.

Thursday, 27th, at noon, about-eighty two hours after the operation, the tube was left out entirely, and the wound of the neck allowed to close up. The swelling of the epiglottis diminished very slowly; its existence, however, did not apparently embarrass either deglutition or respiration.

The rapid subsidence of the œdematous swelling of the glottis, permitting, as it did, the trachea tube to be dispensed with on the fourth day, is worthy of special notice. It was unquestionably owing to the scarifications that immediately preceded the opening of the trachea, no other treatment having been resorted to. This conclusion is corroborated by comparison with other cases where tracheotomy alone has been successfully employed in treating this disease, and in which the tube had to be worn for two or three weeks. On the tenth day after the operation (Wednesday, December 3d) the patient was exhibited at a meeting of the Academy of Medicine in the small chapel of the University. The wound of the neck had nearly healed, and air no longer escaped through it.

Convolvulin and Jalapin as Purgatives.—Drs. Köhler and Zwicke published an essay in *Neues Jahrb. f. Pharmacie* on this subject, the following being their conclusions:—

1. That the purgative action of these substances depends on the presence of bile in the bowels, with which they may mix and be dissolved. Whilst 0·3 grm. caused death when administered to a guinea-pig, by producing enteritis, as much as 1 to 2 grms. could be given without effect when the ductus choledochus had previously been tied.

2. The drastic effect is due wholly to local irritation of the mucous membrane. They injected subcutaneously and into a vein as much as 0·5 to 1·5 grm. without any effect.

Perineuritis.—This is the name given by Galezowski to inflammation which seems chiefly to affect the outer neurilemma.

Sarcinæ.—*Sarcinæ* and yeast fungi are occasionally found by means of the microscope in the vomit. These organisms are the result of a process of fermentation. Of sarcinæ we knew nothing previous to their description by John Goodsir, in 1842.

New Theory of Nervous Action.—At the last meeting of the Royal Irish Academy, Dr. R. McDonnell, F.R.S., read a paper on "A New Theory of Nervous Action, as regards the Propagation of Sensation along the Nerves."

The author's paper might be briefly described as an application of a theory, similar to the wave theory of light, to the propagation of sensations along the nerves.

He confined this "undulatory" theory of nervous conduction with the hitherto more generally received hypothesis of distinct nerve conductors, supposed to exist for each kind of sensation (pain, heat, tickling, &c.), and attempted to point out that the former is at once a simpler hypothesis, and more in harmony with the ideas now prevalent as to the propagation of light, heat, electricity, &c.

The author also dwelt upon many points of analogy between the absorption or interception of waves of heat or of light, and the somewhat similar phenomena as regards nerve conduction where one kind of sensation is felt, and another ceases to be any longer perceived, as in cases where the patient feels the contact of the hand, but cannot distinguish heat, or *vice versâ*.—*Med. Press & Circular.*

Carbolic Acid Internally in Syphilis.—In the *Arch. f. Dirmat. und Syph.*, Dr. M. Kohn reports the results obtained by Professor Hebra. The acid was generally given in pill, and was used only in the exanthematous forms of the disease with any apparent success. These, however, improved or disappeared under the use of the remedy in four to seven weeks. Hebra cannot recommend this agent, since mercurials act much more quickly; and the carbolic acid is quite ineffectual against the nocturnal pains and affections of bones and joints.

Therapeutics of Spinal Diseases.—Dr. Heaton, of Leeds, after giving the details of a case of paraplegia recently treated by him, says:—"The therapeutics of spinal diseases seem to be very much in the shade. On the theory of causing absorption of effused matter into and around the cord, iodide of potassium was given. To lessen the blood-supply to the congested structure, belladonna; aperients for torpid bowels, and electricity to maintain and promote the enfeebled muscular contractility. The benefit from any and all of these means was very small." We quite coincide in the gloomy view taken by Dr. Heaton as to the present state of therapeutics in spinal disease.—*Med. Press & Circular.*

Disease of the Stomach.—Dr. Wilks says that in cases of persistent vomiting, accompanied by hematemesis, it is necessary to ascertain whether the food comes up immediately, or after it has passed into and remained some time in the stomach. In the former case, there may be some contraction of the œsophagus; in the latter there is a probability of the stomach being diseased either with cancer or ulcerated. In cases of gastric ulcer, hematemesis may be slight or severe; when arising from disease of the liver, it is always excessive. He looks with disfavor on the plan of passing bougies for the treatment of œsophageal diseases from morbid deposit, since the contraction of the tube from this cause is not at all analogous to that of stricture of the urethra.—*Med. Press & Circular.*

THE MEDICAL RECORD.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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AMERICAN MEDICAL JOURNALISM.

THE general want of success of Medical Journalism in this country is, we are compelled to say, a fact. The profession has no cause to complain that it has not had periodicals enough, but that they have had, comparatively speaking, such a short existence. Of one hundred and twenty medical journals that have made their appearance within the last fifty years, fully one-half were discontinued within from six months to three years from the commencement of their publication. Of the remaining number, twenty did not continue beyond five years, and of more than thirty now being published in this country, only thirteen have been in existence more than a single decade.

Comparing this experience in the establishment of journalism with that of other countries, we find that the instability is a peculiarity of our medical institution. As such, however, it has its peculiar causes and explanations, intrinsic as well as extrinsic. To the former the principal burden of blame attaches itself, the truth being that the management of medical journals has not been what it should be. We make this assertion in the full conviction that we ourselves are not infallible, and that in common with others, there is much room for improvement. But this is by the way.

We hold in the first place, that a journal of any kind that aims for popularity, should be conscientiously independent of every element or every influence save such as strictly serves the cause of truth. As a professional organ, it has eminently such a duty to perform, and in just so much as it does it, just in that proportion will its opinions be respected, and its reputation for probity earned. We believe that the majority of the journals have failed because they fell short of this requirement, by sacrificing their self-respect to cliquism, base puffery, to petty intrigues, and to the dictation of different medical schools. Not long ago a medical journal of this city, now extinct, claiming to be thoroughly independent, could not print a leading article unless the same was submitted beforehand to the approval of several prominent medical men, who would so often expunge certain statements of facts in fear of telling the plain truth, that when the article appeared in print its original writer could not recognize it as his. This was, perhaps, explained on the score that such gentlemen were very heavy stockholders in the concern, and were determined to use the periodical in their interests alone. We should be sorry to know that any other journals now in existence are given to the same policy. It is so easy, however, to drift into partiality, that it is sometimes wonderful to suppose that any paper can be above the considerations which lead to it—just as we sometimes amaze ourselves by contemplating a perfectly healthy body, against the usual chances for disease in any of its different organs. Colleges, cliques, and individuals are ever on the lookout to ventilate private grievances, and seek the mean and petty revenge of covert vilification through the columns of the journal. They are apt to bring all sorts of influences to bear against the good intentions of the conductor of the magazine; and often, under the penalty of non-patronage, insidiously beguile him into the interests of trickery, puffery, hypocrisy, and lampoonery. There is a great deal said about the freedom of the press; but to reduce the assertion to an absolute fact, very few periodicals can be found who dare at all times, and under all circumstances, to attack anything and everything that is wrong. And yet it is their bounden duty so to do, irrespective of the power of the parties concerned, the position they may hold, or the reputation they may have. A journal that calls itself strictly independent, is in the same relation to the medical profession as is an upright judge to the general community—neither has the moral right to betray the trust imposed.

Another inherent cause of failure is the lack of the requisite quantity and quality of contributions. When a journal is first started it is not difficult, on account of the prospective benefits, to the writer, of large circulations, to secure first-class contributions; but if the calculations of the editor do not go beyond the first few issues, he has often to beg for many an article which at first he had no hesitation in refusing. The difficulty of obtaining original material when the issue of the journal is trimmed to suit its bonâ-fide subscription list is sometimes so great as to compel the necessity of wholesale reprints from its contemporaries. But the failure to fulfil promises for good reading is not chargeable so much to the lack of a disposition to do what is right, as to the difficulty, nay impossibility, of keeping the majority of the enlisted contributors to their promises. The mistake in the majority of cases is in the small number of the contributing corps, no calculations being made for contingencies. This has been particularly the case with journals in small towns, limited districts, or from particular medical schools. On the other hand, too, in large towns where the material for contributions is abundant, and where the contributors are very many, there is frequently so little disposition to

write for periodicals that do not take a respectable stand, that they starve in the midst of plenty.

We are led in this connection to speak of the general scarcity of medical writers in this country. In no other community of medical men is there such a lack of desire to impart information with the pen. There are many hundreds of good, thorough practitioners in our midst, who, with an experience of twenty years and over, have never written a word for a medical paper. Is it fair to presume of these gentlemen that their experiences have been worth nothing to themselves or others; that they have discovered nothing that might be added to the common stock of professional knowledge? If such be their excuse for not writing, we commiserate their stupidity, and deplore the number of years they have spent for naught. How much more useful would such be, if, instead of entering our profession, they had devoted their energies to some respectable trade! But this is, in truth, not the main reason why such gentlemen are silent. We are convinced that a goodly number would be tempted to contribute their quota to the current medical literature, if they were properly qualified by previous education so to do. Alas! to the chagrin of the profession of this country be it said, the number of those who have enjoyed the privileges of a necessary preliminary education is disproportionately small to those who have not. Then add to this number those who, being able, are too indolent to write, and need we look further for a good explanation of the paucity of good contributions to our current literature?

Lastly, we come to consider the extrinsic causes of non-success. These are mainly summed up under one head—the want of proper pecuniary patronage. Generally speaking, the subscription list of a medical paper is much below that of any other strictly scientific publication. This is by no means due to the small number of physicians who should be interested in its success, but rather to the lack of the cultivation of a habit of reading and study. Probably not one physician in ten really imagines that he has any use for a medical journal, at least we can safely assert that not more than that proportion are supporters of our periodical literature. And yet we often hear such individuals denounce such publications as unworthy to represent the views of the profession. It has, seemingly, never occurred to them that they might have it in their power to turn the tide in favor of the journals by adding to the number on the subscription list, and contributing to the excellence of the original departments. But these reformers deny us the very opportunities for improvement which would place us beyond the necessity of their criticisms.

The medical department of the Prussian army has been much improved since the breaking out of the present war, and in effectiveness, numbers, and discipline, may perhaps equal that of any other similar organization. The Army Medical Staff is composed of regular surgeons and assistants to the amount of nine hundred, under the direction of a Medical Inspector General and staff, and about the same number of volunteer surgeons who are a provisional corps, and are ordered out only in times of war. These latter are styled Landwehr. The volunteer staff is further increased by a large number of young medical graduates, who serve in the different capacities of assistants. Besides this there prevails a system of medical cadetship. Two soldiers per company, having been instructed in minor surgery, are detailed as servants to the surgeons, and as general dressers for trivial wounds. In place of our ambulance corps, the Prussians have what are called sick-bearers, who now number five thousand.

The French medical staff has undergone equally radical changes. There is a large accession of civilians to the regular army corps, and from all accounts they are rendering, under the direction of their Sanitary Commission, very effective service. The number of cadets recruited from the medical schools is very large.

Both armies are, surgically speaking, well comparisoned, and despite the rumors and assertions to the contrary, carry on their operations upon the broad and humane conception of treating all the wounded and sick of either side upon terms of the strictest neutrality. The principle of action is founded upon the international treaty of August 22, 1864; the Prussian and French governments being alike parties to the same.

The first article of this treaty provides, that ambulances, hospitals, and all material destined to aid the sick and wounded, either on land or sea, are recognized as strictly neutral. The members of the societies of relief for wounded soldiers in the land and naval services of every country, their attendants, material, as well as volunteer aids and nurses, and the convoys of the health service, are likewise protected. The members of these societies wear a badge, which is a red cross upon a white ground. This badge must be respected wherever seen. Even the habitations in which wounded soldiers are cared for have full and complete protection. There are also minor matters providing for the recognition of the wounded, their protection from pillage and bad treatment; the recognition and burial of the dead; preserving the identity of the soldier; the completion and transfer of lists of sick, wounded, and dead; but these show the broad humanity and generous treatment of wounded belligerents, which, originating in the Sanitary Commission of the United States, now characterize all the armies of civilized nations. The organization of the Prussian Medical Service, particularly its hospital organization, is one of the most complete in the world. Every corps is provided with material and nurses necessary for three field hospitals and three ambulances, besides a competent medical corps and detachment of troops specially detailed to take up the wounded and remove them to the ambulances or temporary hospitals. Furthermore, they allow voluntary aids (who wear the international badge upon the arm) to keep close up to

the battle-fields; they encourage the gifts of the people for succor to the wounded, and they have fitted up immense trains of hospital cars upon the railways.

It is pleasing, in view of all the dreadful slaughter which this present war entails, that a noble and enlightened humanity accomplishes all that is possible in alleviating the sufferings of the sick and wounded.

Reviews and Notices of Books.

MEDICAL DIAGNOSIS, WITH SPECIAL REFERENCE TO PRACTICAL MEDICINE. A Guide to the Knowledge and Discrimination of Diseases. By J. M. DA COSTA, M.D., Lecturer on Clinical Medicine, and Physician to the Pennsylvania Hospital, etc., etc. Third Edition, revised. pp. 844. Philadelphia: J. B. Lippincott & Co. 1870.

THE author has divided the work into thirteen chapters. The first, which may be regarded as introductory to the rest, is devoted to the examination of patients and some symptoms of general import, and occupies nearly fifty pages. In regard to the significance of general symptoms, much importance is attached to the different kinds of pulses:—"A hard, full, frequent pulse occurs in active inflammations, and in most of the acute diseases of robust persons. A hard pulse, full or small, bounding or not, if unconnected with acute symptoms, leads to the suspicion of cardiac disease, or of an affection of the artery itself. A tense, contracted, and frequent pulse is met with in a large group of inflammations below the diaphragm: as in enteritis, peritonitis, gastritis. A frequent pulse, full or small, but rarely tense, is the pulse of most idiopathic fevers. A very frequent pulse, but very feeble and compressible, is the pulse of marked debility, of prostration, of collapse. A pulse frequent, and changeable in its rhythm, is produced, for the most part, either by disease of the heart or of the brain." The *sphygmograph* of Marcy, with the improvements of Austin and Sanderson, is a very ingenious instrument for examination of the pulse with precision; but the author rightly agrees with the majority of the prominent investigators and authors, that the precise value of the instrument for clinical research is yet to be fixed. At all events, it does not yet supersede the older and more usual means of research.

The difficult and important diseases of the brain, spinal cord, and their nerves, are as clearly defined in Chapter II. as the deficient knowledge of the physiology of these vital parts, and the ability to appreciate the minute structural changes of nerve-tissue, will allow. In discussing this chapter, we will allude to the essential points hinted by our author on the subject of *anæsthesia*, that his position may be understood:—

"In endeavoring to form a correct opinion of the completeness of anæsthesia, it will not do to trust entirely to the patient's statements. We must resort to means by which we can make accurate comparison; and one of the best is to pursue the method used by Weber in his researches on the tactile properties of the skin. It consists in determining how closely the points of a pair of compasses, sheathed with cork, may be approximated on the skin, and yet be felt as two distinct points. An instrument for the same purpose, called the æsthesiometer, was invented by Dr. Sieveking, and can be applied in paralysis to ascertain the amount and extent of sensational impairment, as a means of diagnosis between actual paralysis of sensation and mere subjective anæsthesia in which the tactile powers are unaltered, and as affording us assistance in determining the progress of a case of palsy for better or for worse." Two other useful instruments have been invented by scientific observers; the one used by Brown-Séquard, with a larger handle; the other combining the principle of the beam compass with that of the mathematical one, contrived by Dr. Ogle.

A short but comprehensive chapter follows upon diseases of the upper air passages, and the application of the *laryngoscope*.

The clearness with which he makes his statements in regard to the best means of making a laryngoscopic examination, shows the author to be a practical manipulator; the subjoined opinions are entitled to consideration:—

"In some persons with very irritable throats, I have obtained good views by pressing the instrument against the roof of the mouth, instead of passing it back into the pharynx, and by altering the position of the head a little, tilting it more backward. The epiglottis, and the structures at the entrance of the windpipe, are thus readily enough brought into view; with the deeper parts we do not succeed so well. But in many cases we get sufficient guide for topical applications.

"There are some further obstacles, such as rising up of the tongue, greatly enlarged tonsils, a very long uvula or a pendent epiglottis, all of which at times seriously interfere with our investigations. But in any case we should not endeavor to make the view more satisfactory by constantly altering the position of the mirror. It is always better to introduce it repeatedly, than to shift it often when introduced, or to keep it for any length of time in the patient's mouth."

To acquire dexterity and quickness of manipulation, one of the best means in our possession is *autolaryngoscopy*. We may readily inspect our own larynx by the simple method recommended by Dr. George Johnson, by employing a toilet glass and throwing the light, with the reflector worn in the ordinary manner, on the image of the fauces as seen in the toilet glass; the laryngeal mirror is then introduced into the mouth.

In Section third of Chapter VI., an exhaustive inquiry is made of the symptoms which the disease of the liver generally manifests: 1st. One of these is pain; generally dull, radiating from the seat of the liver. 2d. The usual accompaniments of hepatic affections are *digestive troubles*. 3d. *Disturbance of the portal circulation* is also a very frequent consequence of disease of the liver.

Under rare circumstances *cancer of the stomach* may simulate cirrhosis. To illustrate this point, the author reported in the *American Journal of Medical Sciences*, vol. lii., 1866, a case which came under his care at the Pennsylvania hospital, where, with very slight digestive symptoms and without discernible epigastric tumor, considerable ascites and effusion into the left pleural cavity existed. The bowels were loose, and bile pigment was present in the urine. This case might have been selected as cirrhosis of the liver, as the man had been very intemperate; yet at the autopsy the liver was not cirrhotic, although small and rather hard, and a cancer, involving nearly the whole stomach, excepting the pylorus, was discovered.

A large portion of the work is taken up with the pathological and clinical aspects of the urine, and on other diseases of the urinary organs. In the discussion of the several tests of the urea, Davy's method, with hypochlorite of soda or Labarraque's solution is to be preferred to Liebig's process. With the imported French solution, it has the sanction of Professor Austin Flint, Jr., of New York, who asserts that, with the American article, it is very uncertain. For all ordinary purposes the rough way of estimating the urea—by dropping nitric acid into a porcelain capsule holding urine which has been evaporated to a mucilaginous

consistence—is recommended. He also adds, that we may often, even without subjecting the fluid to this test, guess that the urea is increased by observing the deep-yellow color, the strong urinous smell, and high specific gravity of the discharge. The attention which the study of urinary diseases is receiving will insure a thorough examination of this entertaining chapter of nearly one hundred pages. The last section, on poisons and parasites, is made very instructive and interesting, but we have occupied so much space in hinting at some of the most prominent points of the work, that we shall leave the rest to the reader.

In conclusion, we take occasion, but not for the first time, for expressing our appreciation of the author's labors, and commending them to the attention of every medical practitioner throughout the land. The wood-cuts employed are all original, and executed in a high style of art; many of them are improved by the skilful hand of Dr. Packard, and they combine all that can be desired in medical illustrations.

It is handsomely printed on fine tinted paper, and the text is unusually free from inaccuracies.

STRONG DRINK AND TOBACCO SMOKE. The structure, growth, and uses of malt, hops, yeast, and tobacco. With one hundred and sixty-seven original illustrations, drawn and engraved on steel. By HENRY P. PRESCOTT, F.L.S. New York: William Wood & Co. 1870.

THE origin of this work was an attempt to popularize, by means of public lectures, the study of botany, and especially the structure of plants and their mode of growth. For this purpose the author judiciously selected a few plants of general interest, because in some form or other they are very largely consumed nearly all the world over. With the physical and moral effects of this consumption of alcohol and tobacco, the author has nothing whatever to do. He confines himself strictly, in the first place, to a description, very clear and complete, of the materials entering into the composition of beer and spirits, and of the various articles used in adulteration. The growth, nature, and minute structure of barley and hops, and the conversion of the former into malt, are very fully described and illustrated. The yeast plant is next taken up, and this leads naturally to the method of manufacturing beer and whiskey. These subjects occupy six of the seven chapters which compose the book. The seventh is devoted to the tobacco plant, and the means, microscopic and other, of detecting the various "weeds" and other substances used in adulterating the tobacco of commerce. Those who consume this drug in any shape may easily learn to judge for themselves of its purity.

No one can carefully peruse this interesting volume without acquiring a considerable knowledge of vegetable anatomy and physiology, to which the beautiful plates and illustrations contribute largely. The book is edited by Professor Huxley.

A GUIDE TO THE EXAMINATION OF THE URINE, for the Practitioner and Student. By J. WICKHAM LEGG, M.D., Member of the Royal College of Physicians, Physician to the St. George, Hanover Square, Dispensary. Second Edition. Lindsay & Blakiston, Philadelphia. 1870. 12mo., pp. 88.

THIS little work is designed to be a practical guide for the microscopical and chemical examination of the urine; and well does it meet such an end. All the information that is necessary to the chemical student, hospital interne, and general practitioner, is given concisely, systematically, and clearly. Especially is this true with regard to the urinary deposits, their microscopical character, chemical reactions, &c. A very useful and reliable appendix has been added, in which the manner of estimating the urea, chlorides, phosphates, sugar, etc., by volumetric or other rapid analysis, is described. We unqualifiedly recommend the book to every one who desires to become practically familiar with urinary examinations. We can look back to the time when such a work as the present one would have been an invaluable aid to our early microscopical and chemical studies.

THE RETROSPECT OF MEDICINE, being a half-yearly journal, containing a retrospective view of every discovery and practical improvement in the Medical Sciences, edited by W. BRAITHWAITE, M.D., late Lecturer on Midwifery and the Diseases of Women and Children, at the Leeds School of Medicine, etc., and JAMES BRAITHWAITE, M.D., Lond. Vol. LXI. January–June. London, Simpkin, Marshall & Co. Edinburgh, Oliver & Boyd. Dublin, Hodges & Smith. 1870, 12mo. pp. 400.

The foregoing number of this journal (which we have just received from the editors) contains more than the usual number of well selected and valuable materials.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

STATED MEETING, SEPTEMBER 14, 1870.

DR. J. C. HUTCHISON, PRESIDENT, in the Chair.

THE Committee on Microscopy reported the tumors of the liver in Dr. Merritt's specimen of liver to be tuberculous in character.

CANCER OF PYLORUS.

DR. FINNELL exhibited a specimen of cancer of the stomach on behalf of Dr. Hogan. The subject from whom it had been removed was a female aged fifty-five, who had suffered for six years previously with dyspeptic symptoms. She had very severe attacks of what appeared to be acute gastritis accompanying her other symptoms. On entering St. Vincent's Hospital she was found to be suffering from all the usual symptoms of a disturbed stomach, vomiting, distress, and inability to retain any food. Her ingesta would pass seemingly as far down as the pyloric orifice, when they would be immediately rejected. Death finally occurred as the result of inanition. At the autopsy a deposit of cancerous material three inches in depth was found around the pylorus, constricting the orifice at that point to the diameter of a small-sized probe. The mother of this patient had died of the same disease, in the same locality, at the age of fifty.

DESTRUCTIVE INFLAMMATION OF ANKLE-JOINT—AMPUTATION.

A second specimen by Dr. Finnell was the lower extremity removed by amputation from a man aged thirty. Six months ago he first noticed pain and stiffness in the right ankle when he walked. The part soon after commenced to swell, and in consequence of this and the increase of his pain he was confined to his room. The swelling, which was more on the right than the left side of the leg, finally culminated in an abscess over the extremity of the fibula, which opened spontaneously, discharging unhealthy pus. After a few weeks an abscess formed over the internal malleolus with a like result, and also one on the anterior surface of the joint. All this occurred within one month of the first appearance of the swelling. An attempt was made to treat the patient by perfect quiet of the limb in appa-

ratus, but the pain was so severe that the plan was abandoned in despair. Dr. Finnell finally saw him as an out-patient, and, in view of existing pulmonary disease, the rapidity of development of the joint affection, and the severe constitutional disturbance, advised amputation. It should also be mentioned that a thorough examination of the joint showed its surfaces denuded, with other evidences of extensive and rapid disorganization. Aside from this, one of his wrist joints was commencing to be similarly affected. Amputation was performed at St. Vincent's Hospital, September 10, with the result, up to the time of reporting the case, of an amelioration of all his general symptoms.

On cutting into the joint it was found to contain unhealthy pus, its surfaces were reddened and pulpy, the extremities of the bones were softened and in places partially denuded. All the abscesses communicated with the ankle-joint.

CHRONIC FLATUS. ENORMOUS LOCALIZED DISTENTION OF PORTION OF ILEUM.

A third specimen by the same gentleman was exhibited on behalf of Dr. J. W. Wright, and was a portion of the ileum, fifteen inches in length, removed from a carman, aged fifty, who had suffered for the past sixteen years with dyspepsia and occasional attacks of violent colic with flatulent distention. The only relief obtained from the latter was by large doses of cathartics. During the month of July, Dr. Finnell saw the patient, in one of his colics, in consultation. The abdomen was then enormously distended and tympanitic, and all the other symptoms were those of internal strangulation. A diagnosis was made accordingly. He died at the end of eight days from exhaustion, the result of obstinate vomiting and continued pain.

At the autopsy the cause for the enormous distention was found in the condition of the section of ileum presented. As before mentioned, it was fifteen inches in length and had seemingly been twisted at each extremity, so that the confined gas had distended it at its largest point to a diameter of eight inches. The upper twist was gangrenous, the result of post-mortem decomposition. The coats of the diseased portion were much thickened, and the whole presented the shape and general appearance of a good-sized stomach. There was no peritonitis anywhere. No feculent matter was found in the sac or in its neighborhood; and there were no evidences of localized inflammation of the gut at the point involved in the lesion.

Dr. F. V. White asked if such a condition of things was not an anomaly in pathological anatomy. Dr. Finnell stated that Jones and Sieveking referred to it as occasionally occurring. Dr. Rogers had not met with any precisely similar cases in his reading, although in searching up the literature of intestinal affections for another purpose he had met with instances of localized distention from membranous bands, adhesions to contiguous parts, and intussusceptions.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

STATED MEETING, SEPTEMBER 5TH, 1870.

DR. ELLSWORTH ELIOT, in the Chair.

IN the absence of the President and Vice-President, Dr. Ellsworth Eliot was, on motion, appointed to preside.

The Secretary stated the fact of the illness of the President during the adjournment of the Society for the summer.

The President *pro tem.* announced the admission to membership of Drs. J. W. S. Gouley and Chas. Bliss; also the death, since the last meeting, of Dr. Gunning S. Bedford, a member since Sept. 14, 1831; Dr. Thaddeus M. Halstead, a member since Feb. 26, 1839; and Dr. John Shanks, a member since March 13, 1837.

The report* of the Committee on Intelligence was read by Dr. B. S. Thompson.

DR. FINNELL, in a few appropriate remarks, made mention of the decease of Prof. Bedford. He then presented a very rare and interesting specimen of Diverticulum from the intestinal canal. Remarks on the same were made by Drs. Jacobi and Rogers.

DR. JOHN C. PETERS showed maps of the course of all the epidemics of Cholera.

DR. JACOBI presented the following resolution, which was unanimously adopted:

Resolved, That this Society has heard with sorrow of the illness of its President, Dr. Geo. T. Elliot; and, while regretting that he is unable to be with us at this time, we rejoice at the prospect of his recovery, and hope that he will soon be able to resume his labors, which added so much to our prosperity and made his name known as an accomplished scholar and skilful physician.

The following addition to Chapter I. of the By-Laws of the Society was recommended for adoption at its next anniversary meeting:

CHAPTER I. ARTICLE —.

"Members whose dues are unpaid shall not be candidates for any official position in the Society, nor shall they be entitled to vote."

Nominations were then made for all the regular officers, as well as for twenty-one delegates to the State Society. (The election will be held at the Anniversary Meeting, on the first Monday in October.)

The Society adjourned.

CANADA MEDICAL ASSOCIATION.

THE Medical Association of the New Dominion met on the 14th ultimo, in Ottawa. The American Medical Association was represented by Dr. Storer, of Boston, Dr. Garrish, of New York, and Dr. Sullivan, of Malden, Massachusetts.

The opening address was delivered by the Hon. Dr. Tupper, President. After alluding to the good that had been accomplished by the Association, he reviewed the action of the previous meetings. A committee was appointed at the last meeting to prepare amendments to the Medical Bill. It was admitted that such a measure must be compromised. They had agreed on the appointment of a General Medical Council appointed by the schools and by the medical men of the country. They had also agreed on the common legislation for all the Province, in punishing men for practising without medical education, but it would not do to go beyond public sentiment. He would leave it open to all to employ whom they pleased, but would impose a heavy penalty where persons were guilty of deception in representing that they had authority to practise.

At the afternoon sitting, papers on medical subjects were read by Dr. Sheriff and Dr. Kingston.

Dr. Howard then read the draft of the Medical Bill, as proposed by the committee.

There are forty-nine sections in the bill. It is very similar in its provisions to the Ontario Medical Act, ex-

* This interesting report, for want of space, is deferred until our next issue.—ED.

cept that no reference is made to Eclectics or Homœopaths, who are thus completely ignored.

The Medical Council will be composed of representatives of the Universities, and twelve men from the registered members of the profession—four from Ontario, four from Quebec, and four from the other Provinces. Branch Councils for the several Provinces are provided for.

The discussion of this bill was the principal business before the meeting.

The first clause of importance was that providing for the admission into the College of Physicians and Surgeons of Canada, of every person at present holding a license to practise. This clause was adopted.

The next clause eliciting discussion was that providing for representatives in the General Medical Council. After a good deal of discussion it was Resolved—"That no University or College that does not exercise Medical functions by a staff of Teachers or Board of Examiners regularly conferring medical degrees, shall be entitled to representation in the Council." This clause was carried by a majority of one.

It was further resolved that the General Council shall be composed of thirty members—ten representing Ontario; ten Quebec; and five Nova Scotia and New Brunswick, respectively, in accordance with the following plan: Each school of medicine or University having a staff of teachers or a board of examiners regularly conferring degrees, shall have the privilege of sending a representative to the General Medical Council, and the remainder shall be elected by the members of the College of Canada not connected with the teaching or examining bodies.

The next important step was the abolition of the clause providing for branch councils, as also of that providing for branch Examining Boards; it being determined to have one central examining board.

The next decision of importance was that no medical school, other than those now in actual operation, shall be recognized after the passing of this Act, unless its recognition shall meet the approval of the General Medical Council.

A discussion then arose regarding a personal clause inflicting a fine upon persons wilfully and falsely pretending to be possessed of the legal requirements entitling them to practise. It was then agreed that in default of the payment of the said fine, any such person should be sent to jail for the period of 30 days.

The Bill, as modified, was referred to a committee to incorporate the amendments and superintend the printing. It will come up for consideration at the next annual meeting, and will then be finally disposed of by the Association.

An interesting paper on Entozoa was read by Dr. Van Cortlandt.

Hon. Dr. Parker, of Halifax, was elected President for the ensuing year, and Quebec designated as the place of the next annual meeting.

The Association adjourned on the 17th.

NEW YORK MEDICAL JOURNAL ASSOCIATION.

STATED REUNION, MAY 27, 1870.

DR. ISAAC E. TAYLOR, PRESIDENT, in the Chair.

ANTIPHLOGISTICS IN DISEASES OF CHILDREN.

DR. JACOBI continued his remarks upon this subject, of which we give a report on page 337.

DR. A. H. SMITH.—Dr. Jacobi's remarks upon the use of ergot suggest a case recently reported to me by a highly intelligent physician of this city. A woman, after delivery, had much blood left in the uterus, and spasm followed. To combat this, fluid extract of ergot was given, to the extent of about an ounce in twenty-four or thirty-six hours, with the effect of expelling a large amount of blood partially decomposed. Within forty-eight hours of the time the last dose was given the woman began to complain of diminished sensibility, pain, and coldness in the extremities; and it was found that the pulse was almost absent there, while in the carotids it was at sixty. The toes became very blue, and a line of gangrenous demarcation was beginning to be foreshadowed. By very vigorous use of quinine, wine, and the inhalation of oxygen, reaction was brought about, being fully established by the third day. The blood-poisoning, which had taken place to some extent, would approximate the case of this woman to that of the badly nourished persons mentioned by Dr. Jacobi as especially liable to the injurious effects of ergot.

A word also with regard to the use of alcohol as an antiphlogistic, especially in cases of pneumonia. Its effect in reducing the temperature is unquestionably produced by its retarding tissue-change. It is well known that alcohol diminishes the amount of carbonic acid exhaled from the lungs, and there is no doubt that retrograde metamorphosis is diminished in the system generally. Now, although alcohol may act as a local irritant, yet we should also, I think, take into account the lessened demand upon the lungs resulting from this diminished elimination of carbonic acid, and the consequently diminished respiration. This may, perhaps, relieve the lungs enough to counterbalance the local irritation.

DR. MESSENGER.—Bonjean says that he has succeeded in removing the poisonous principle of ergot, and that large doses of his "ergotine" will not cause gangrene as would ergot itself. Taking this into account, I gave it in large doses in a case of hemorrhage from the bladder. The patient was a weak old man of upwards of seventy years, very anæmic from having lost a great deal of blood, and much reduced in every way. After I had resorted to all the measures I could think of to arrest the hemorrhage, ergotine was suggested to me by an apothecary. I had then, two years ago, no experience with the preparation. I gave half-drachm doses in solution every four hours, and also used it locally by means of a double canula and catheter. After a while I succeeded in stopping the bleeding, and there was nothing of the injurious effect which might naturally have been expected from the ergot. So perhaps Bonjean is correct in his claim.

I think the good effects of ergot in inflammatory diseases are not so generally known to the profession as they ought to be. Judging at least by the slight mention to be found in the journals, too few are aware of its great value in a considerable variety of affections, particularly diarrhœa, dysentery, and fluxes of almost every kind.

DR. JACOBI.—In the case related by Dr. Smith, I do not feel entirely satisfied that the cyanotic hue of the lower extremities was the result of the doses of ergot given. Might it not be possible that the woman was simply in imminent danger of dying, except for the resuscitation by stimulants, quinine, etc.? Was not the color the premonitory symptom of death rather than of local gangrene?

THE DISCOVERY OF GALEZOWSKI.—This investigator has found syphilitic retinitis and neuritis to be always accompanied by color-blindness.

Correspondence.

INDURATION OF SPINAL CORD AND SCLEROSIS.

To the Editor of the Medical Record.

Sir—In The Record of September 15, p. 324, I read: "I. Netten Radcliffe, M.D. (*Med. News and Library*), in his paper on 'Diseases of the Spinal Cord,' remarks, 'Like the opposite condition of softening, induration (sclerosis) of the spinal cord is one of the consequences of myelitis, acute or chronic, the chronic form especially . . . is generally associated with atrophy, more marked in the white matter than in the gray, with a condition so curiously bloodless that a section is not unlike that of white of egg. . . . It has no symptoms by which it can be distinguished from softening, etc.'" These sentences, so full of errors of statement of facts, were not written by Mr. I. Netten Radcliffe, late Superintendent of the Hospital for the Epileptic and Paralyzed, London, but by Dr. C. B. Radcliffe, and appear in one of his articles on "Diseases of the Spinal Cord," *Reynolds' System of Medicine*, vol. ii., p. 668, and which are reprinting in the periodical to which they are credited in The Record as an original contribution. The identification of induration and sclerosis of the spinal cord, two distinct morbid conditions, is so misleading, clinically and pathologically, and so at variance with present views which hold sclerosis to be a special alteration, and entirely distinct from induration of the cord, that this untrue information should not have currency by means of your widely circulated journal, without notice and correction. To point out all the mistakes and ignorances of the quoted lines would occupy more space than you would be willing to grant, and more time than I am disposed to give, as I have already, both in the columns of The Record and elsewhere, endeavored to show what sclerosis of the cord in its several forms is. I will, therefore, only indicate one of the most remarkable and mischievous of these wrong statements, namely, that softening of the cord cannot be "distinguished" from locomotor ataxy (posterior sclerosis), or from disseminated sclerosis with its fits of tremor, or diffuse peri-ependymary sclerosis, etc., none of which have symptoms in common with softening of the nervous centres.

I should, perhaps, state that the articles now reprinting in the *Medical News and Library*, from which the extract is directly made, were written some years ago, before the recent investigations of continental histologists were generally known in England, and that in the second and revised edition of vol. ii. of *Reynolds' System*, soon to be issued, we shall most likely find the chapters on "Diseases of the Spinal Cord" more abreast with the knowledge of the day than in the first.

Very faithfully, your obedient servant,

Meredith Clymer, M.D.

135 Lexington av., New York, Sept. 26, 1870.

THE TREATMENT OF MALIGNANT TUMORS BY ELECTROLYSIS.

To the Editor of the Medical Record.

Sir—Since the publication of my first case of successful treatment of a malignant tumor by Electrolysis,* I have received a great many letters upon the subject from physicians in different parts of this country and of Europe. Almost all refer especially to two points—namely, the subsequent fate of my first patient, and whether other cases have confirmed the correctness of my views with regard to the efficacy of the electrolytic treatment of malignant tumors. To these two questions I am now able to give a positive answer.

It will be remembered that my first patient had been examined by most distinguished surgeons in Europe and America, who all declared him to be affected with a general cancerous diathesis. After the extirpation of his tumor in the left mammary region, the axillary glands of the same side became affected, and were subsequently also removed by a surgical operation. The extirpated tumors were examined microscopically in Paris and New York, and found to be real cancers. Finally, a third tumor developed itself in the right mammary region, which entirely disappeared after my electrolytic treatment in April, 1869. From that time no new cancerous deposits appeared anywhere, and the general health of the patient, which was in an alarming condition before the electrolytic treatment, became excellent in all respects. The patient continues to do very well, now a year and a half after the electrolytic treatment.*

Since May, 1869, I have treated with the same happy result eleven other patients affected with malignant tumors, almost all of them scirrhous. In some of these cases surgical operations had been already performed previously, and the extirpated tumors presented the microscopical appearance of cancer. All the cases exhibited signs of malignancy by their consistency, or by the character of the ulcerated surface, and by the affection of the lymphatic glands. In all these cases, the detailed history of which will be given hereafter, the tumors entirely disappeared after the electrolytic treatment, and no new deposits could be detected anywhere.

I have lately considerably improved the electrolytic method, so as to make it less painful and to shorten the time of treatment. But even during that time, the patient continues his usual pursuits and mode of life, as the treatment is not accompanied by fever or any other constitutional or local disturbance. To avoid hasty generalizations, however, and not to discredit the method, which certainly is destined to be of the utmost importance in the treatment of malignant tumors, I was careful in selecting my cases, and limited myself to the treatment of such malignant tumors as presented a hard consistence, and were of slow growth. From my present experience I have every reason to draw the following conclusions with regard to such scirrhous tumors:—

1. That the electrolytic treatment is able to destroy malignant tumors in a harmless way.

2. That electrolysis is not only a local remedy, but also a powerful constitutional agent, capable of curing the diathesis and preventing relapses.

3. That malignant tumors ought not to be removed by the usual surgical operations, as these do not prevent relapses, and only hasten the generalization of the disease and its fatal termination.

At the request of some medical friends I brought this subject before the American Medical Association, on the third day of its meeting in Washington. Unfortunately, the attendance on that day was very small, but few surgeons being present, and probably no phy-

* Medical Record, Sept. 1, 1869.

* In one of his last letters to me he writes: "I feel that to you far more than to any other mortal am I indebted for the preservation of my life through the fearful perils of erysipelas and attendant fever, and to you also must I ascribe the dispersion of the cancerous tumor in my right side by your electrolysis. You told me you believed you could destroy it, and you did so. Absorption had proceeded to a very considerable extent before I left you, and continued until the breast became perfectly natural."

sicists. One of those present denounced this method, on the ground that he used the same apparatus with which I work, and yet with an utterly negative result. But from what he said, it was evident that he was not familiar with the elements of physics, and had used the anode, which he mistook for the cathode. Of course none but a negative result could have been expected from such experiments. Certainly the fact that my first communication has been published in *Virchow's Archives*, and reprinted in a great number of medical journals of France, England, Italy, and other countries, and has been quoted and favorably commented upon in the *Centralblatt für die Med. Wiss.*, *Virchow's Jahresbericht, &c.*, might have been a sufficient guarantee of the importance of the subject, even to those not acquainted with Physics and Electrophysiology.

In my work on the Galvanic Current, which will soon appear, I shall give a detailed account of the modified method which I am using, together with authentic cases, and my views concerning the development of malignant tumors.

I have no doubt that the electrolytic method will soon be found by competent and impartial judges to be a valuable contribution to surgery, in the interest of which I have undertaken these researches.

W. B. Neftel, M.D.

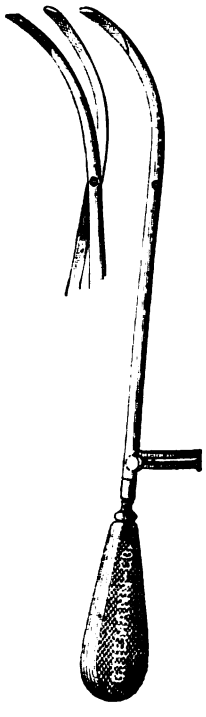
New Instruments.

A NEW UTERINE SOUND AND SCARIFICATOR.

By ALEXANDER J. C. SKENE, M.D.,

PROFESSOR OF DISEASES OF WOMEN AND CLINICAL OBSTETRICS, IN THE LONG ISLAND COLLEGE HOSPITAL.

In the treatment of diseases of women I have experienced no little trouble in finding a convenient instrument for scarification of the uterus.



A plain straight, or curved knife, would not answer all the requirements, and the complicated uterine scarificators, while they more nearly answered the purpose, were open to some objections.

The best instruments which I have seen, heretofore, are those of Drs. Storer, Miller, and Pinkham, but I could never acquire facility in using them, and they required more time to keep them clean than I could afford.

I had often wished—while exploring the cavity of the uterus—that I could transform the probe-point of the sound into a cutting edge, so that I might scarify with the same ease that I could examine. This idea, and necessity, led me to devise the instrument here figured.

Its shape is like an ordinary sound, divided longitudinally into two equal parts, one of which is probe-pointed, and fixed into the handle; the other—a little the shorter—is made at the end like a pointed bistoury. The two halves are held together, like the blades of a scissors, by a button, and when the blades are closed it looks exactly like a uterine sound or probe. Its convex border is marked by small notches, an inch apart, for measuring the size of the uterine cavity. When the blades are closed it can be easily introduced into the cavity of the cervix or body of the uterus, and by pressing on the end of the cutting blade its sharp point is thrown forward for the purpose of scarification, as shown in the figure.

The button which holds the two halves together is so arranged, that, by turning the blades at right angles to each other, they can be taken apart, washed in a moment, and placed together again with the greatest facility.

Having used this instrument for two years in a large hospital practice, experience warrants me in saying that it answers all the purposes for which the uterine sound is used, except that it cannot be bent to suit all cases as the flexible copper sound can be. As a scarificator it fulfils all requirements; the incisions can be made at any point in the cavity of the cervix, or body, and the cutting blade can be regulated so as to cut any depth required. When free depletion is desired the cutting blade can be taken apart from the other, and used to puncture the vaginal portion of the cervix—a favorite practice with some. It is also a valuable uterotome, and can be used in performing Dr. Emmet's operation for flexion of the uterus. After dividing the cervix up to the vaginal junction the angle formed by the flexion at the os internum can be divided easily and accurately with it.

After use the instrument can be thoroughly cleaned in a very short time, which is a valuable quality for anything used in uterine surgery.

The instrument is manufactured by Tiemann & Co.

Progress of Medical Science.

Apoplexy.—Dr. J. M. Da Costa, in his *Medical Diagnosis*, makes the following queries in regard to the cause of apoplexy:—

Now, is there anything at the time of the apoplexy, or after its most urgent symptoms have passed away, by which we can recognize whether the pressure on the brain results from a clot, a serous effusion, or from a turgescence of the cerebral vessels? And, again, do the morbid manifestations furnish any clue to the seat of the hemorrhage? With reference to the former question, all clinical experience forces us to admit that, in any of the states mentioned, the actual signs may be the same; and that we never can be quite certain of the non-existence of a clot. It is true that when the apoplectic symptoms abate rapidly; when thought, however confused, soon returns; when the limbs are not paralyzed, or are so but imperfectly and for a short time,—we have strong reason for believing that congestion simply lies at the root of the disturbance; that, in other words, the case is one of those called simple apoplexy. But it is never possible to give a positive opinion, since a clot near the periphery of the brain may occasion the same phenomena as those specified.

And with regard to a rapid effusion of serum, the difficulty of distinction is quite as great, or even greater.

The *seat* of the hemorrhage can ordinarily be detected with somewhat more certainty than the cause of the cerebral pressure; it could be detected with yet greater certainty, were it not that the extravasation so often takes place into an already diseased brain.

Sciatica.—This affection is rare in children, being the most frequent between the ages of twenty and sixty. Drs. Valleix and Fuller state it to be more common in men than in women, which is denied by the late Dr. Copland, and Dr. Romberg.

An Excellent Way of Finding Lung Tissue.—Dr. Fenwick (*Medico-Chirurg. Trans.*) finds the characteristic lung tissue of phthisical patients, in the sputum as follows: Liquefy the sputum with pure caustic soda, when any particles which may be contained in it fall to the bottom of the vessel, and can be easily removed and placed under the microscope.

Pulmonary Fetor.—Dr. Laycock (*Edinburgh Med. Jour.*) asserts that there are three distinct kinds of pulmonary fetor—that of ozæna, that of fæces, that of gangrene. The latter, due to putrescent decomposition of pulmonary tissue, is characteristic of true gangrene. The ozæna odor is connected with chronic tissue changes of rheumatic origin, as with fibrinous exudation and degeneration. It is found chiefly in fetid bronchitis and bronchorrhœa, and in fetid fibroid vomicæ. The fecal odor may also be observed under these circumstances, and has too, probably, a rheumatic origin.

One Cause of Flatulence.—As a cause of flatulence and eructation which it is important not to overlook, thoracic aneurism may be mentioned.

A Peculiar Form of Hæmaturia.—There is a form of hæmaturia which is endemic, and depends upon the presence of a parasite (*Bilharzia hæmatobia*). It prevails in the Mauritius, certain parts of the Cape of Good Hope, Natal, Egypt, and Brazil. The parasite inhabits chiefly the small vessels of the mucous membrane of the urinary passages and the kidneys, and it gains access to these parts chiefly during the act of bathing in the rivers. Persons afflicted with the Bilharzia hæmatobia are often observed to pass small renal calculi of oxalate of lime, which have for their nuclei the ova of this parasite.

Chronic Bronchitis in Bright's Disease.—This is one of the most common complications of Bright's disease; so common that Rayer observed it in seven-eighths of his patients, and Wilks states it, from an extensive analysis of cases, to have been more universal than any other single symptom, albuminous urine alone excepted.—*Guy's Hosp. Reports.*

To Detect Uric Acid in the Blood.—Dr. Garrod's ingenious plan of detecting uric acid, which is always in great excess in gout, is as follows:—It consists in obtaining the crystals of uric acid on a thread placed in a mixture of the serum of the blood, or of the fluid from a blister, with acetic acid, in the proportion of six minims of the acid to each fluid drachm of the serum.

Time of Appearance of Iritis.—Iritis occurs at every time of life. It often destroys the good result of an operation for cataract in the most advanced old age, and it is also observed in the newly-born. There are even recorded experiences which render possible the belief in an iritis occurring during fœtal life. The middle period of life, from the 21st to the 40th or 50th year, certainly furnishes the greatest percentage. This may be in part due to the greater frequency of traumatic influences and constitutional syphilis at this time of life. Sex seems to exercise no peculiar influence upon the mild or severe course of an iritis. Whether the left iris and irides of a dark color are more disposed to the affection, as some believe, is not yet sufficiently decided.—*Stellwag on the Eye.*

Shortest Time in which Perception of Color can be effected.—Vierordt, and two of his pupils, Burkhardt and Faber, have made experiments on the shortest time in which a perception of color can be effected. They passed stained glasses more or less rapidly before the eye. The intensity of illumination was varied by moving the same kerosene lamp behind a screen of ground glass, which itself illuminated the stained glass. The duration of the retinal impression was measured by means of a pendulum swinging before a slip-shaped opening, of a given but variable breadth. The shortest time required to produce a sensation of color was 0.0029 second, and the intensity of illumination was 21 to 50 times as great as is necessary to recognize the color when looked at for an indefinite period. It seemed that different colors required about the same intensity of light to be perceived at the shortest possible time (*Pflüger's Arch. of Physiol.*, II. p. 121).

The dark appearance of the background of the eye in the region of the yellow spot, is explained generally by the larger amount of choroidal pigment, but according to T. W. Hulke (On the Anatomy of the Fovea Centralis Retinæ, *Phil. Trans.*, 1867) by a diffuse stain of the retinal tissues, and according to E. Taeger (*Ophthalmoscop. Hand Atlas*, 1869, p. 33) principally by the diminution of the intensity of light in this place, on account of the corneal reflection.

E. Taeger, l. c. p. 32, &c., says that *with the ophthalmoscope we do not see the walls of the retinal vessels*, but only the column of blood contained in them. The walls having the same degree of transparency as the retinal tissue, are, therefore, no more visible than the latter. The central light line is due to the reflection from the middle part of the blood-column; while the peripheral parts do not reflect the light back to the ophthalmoscope, but disperse it, and therefore appear dark red, constituting the apparent outlines of the vessels under the ophthalmoscope.

Tuberculosis of Choroid.—A Steffen (On Miliary Tuberculosis, and on Tuberculosis of Choroid—*Jahrb. d. Kinderh.*, II., p. 315, &c.) states that tubercles have always been found in the choroid where there was acute tuberculosis of the lungs, but they have been sometimes absent in miliary tuberculosis of the pia mater. Tubercles in the choroid have been found to be one of the earliest symptoms of miliary tuberculosis, but they may appear at any stage, and even as late as twenty-four hours before the fatal issue of this disease.

The Coating of the Tongue.—J. M. Da Costa, M.D., of Philadelphia (*Medical Diagnosis*), gives the subjoined variations of the coating of the tongue: In health the tongue has hardly a discernible lining; disease quickly gives it one. In inflammation of the respiratory textures, at the commencement of fevers, in disorders of large portions of the abdominal mucous tract, the epithelium accumulates, and the tongue has a loaded, whitish appearance. The coat is apt to be yellowish in disturbances of the liver, and of a brown or very dark hue when the blood is contaminated. But we must be very sure, in drawing our inferences, that the abnormal aspect be not due to the food partaken of, or to medicine. Its color is also modified by the character of the occupation. Thus, as Chambers asserts, there is a curious, smooth, orange-tinted coating on the tongue of tea-tasters. A local cause sometimes gives rise to a thick, opaque coat. For instance, decayed teeth may produce a yellow sheathing on one side. Affections of the fauces also occasion a deep-yellow hue.

Again, some persons, even in health, wake up every morning with their tongues covered at the back with a heavy coating, which wears off during the day.

Observations with the Thermometer.—In using the thermometer for clinical purposes, not less than two observations should be made daily, and every day at the same hour. Between seven and nine o'clock in the morning, and about seven o'clock in the evening, are regarded as the most appropriate periods. If only a single observation be taken, it is best done in the afternoon or evening.

Symptoms of Softening of the Brain.—Dr. Forbes Winslow (*Obscure Diseases of the Brain*) publishes instances in which circumscribed conditions of impaired sensation were the premonitory symptoms of softening of the brain; the defective feeling being manifested in some cases in the skin, in others in the tongue and fauces.

Optic Neuritis.—Dr. Hughlings Jackson, in cases of hemiplegia, has noticed this affection in greater frequency in connection with left-sided paralysis.

In lesions of the encephalon or meninges, Bouchut believes it is in general more marked in the eye corresponding to the hemisphere which is more seriously affected; Dr. Jackson, however, denies the existence of any relation between the side of the brain diseased, and the eye affected.

Epilepsy of the Retina.—Dr. Hughlings Jackson (*Royal Ophthalmic Hosp. Rep.*) has pointed out a peculiar condition of the retina, which he noticed in a patient with epileptiform convulsions, and which he calls *epilepsy of the retina*. The retina is entirely anæmic, a condition dependent, in all probability, upon a contraction of the retinal vessels, similar to that which occurs in the vessels of the brain during an epileptic fit.

Nitrobenzole.—This substance, which operates as a narcotic poison in vapor as well as in a liquid state, may, in the rapidly fatal cases, produce coma, which may be mistaken for the insensibility of apoplexy. But the poison leads quickly to death when coma has been induced, and is detected by its strong odor, resembling that of bitter almonds.—*Da Costa's Diagnosis.*

Temporary Blindness following an Attack of Intermittent Fever. — Dr. Dutzmann (*Wiener Med. Presse*, June 26) reports that a robust young man had been suffering with intermittens tertiana for a fortnight, when a new and more severe attack, complicated with violent clonic convulsions and entire insensibility, reduced the power of vision to feeble perception of light. On ophthalmoscopic examination nothing abnormal was discovered in the fundus of the eye. The patient took a strong dose of quinine, remained five hours in the same condition, then fell asleep, and when he awoke his sight was completely restored. Pigmentary embolism of the central retinal artery, with consequent transitory disturbance of vision, is suggested as a possible cause.

Herpes Ophthalmicus.—B. T. Vernon (*St. Bartholomew's Hosp. Rep.*, IV., 1868) speaks of cases of *Herpes Ophthalmicus*. All parts of the fifth nerve may be affected either isolated or in combination. Neuralgia may occur solely or together, with herpetic eruptions on the eye-ball and its surroundings (phlyctenular ophthalmia and herpes zoster frontalis); but also paralytic affections of some branches of the oculo-motor nerve are observed simultaneously, and this may be, perhaps, only a curious coincidence, but also in causative relation with the affection of the trophic or sensitive functions of the fifth pair.

Production of Bone from Medulla.—An interesting "provisional communication" appears in No. 24 of the *Centralblatt*, from the pen of M. Baikow, on the effects of transplantation of medulla. M. Baikow made two series of experiments. In one set, which were thirty-eight in number, the medulla from the femur or tibia of a dog was placed under the skin of the back of another dog; whilst in a second set, twenty-eight in number, the marrow was inserted beneath the skin of the back of the same individual. The first set of experiments all failed; bone was formed in none. In the second set fourteen cases succeeded—*i. e.*, bone was actually formed; whilst in the remaining six cases the changes that occurred in the early stages were followed. The remaining eight cases were unsuccessful. In the fourteen successful cases bony masses were found in various stages of development, from the earliest rudiments to complete formation, with Haversian canals, lamellæ, stellate lacunæ, and medullary cavities filled with medulla. Up to the present time, M. Baikow's experiments extend only to the seventy-sixth day. In one case, at the sixty-first day, not only was complete bone present, but fibro-cartilage. The results of examinations showed that the medulla, after transplantation, first passed into the condition of fibrous tissue, from which, by the proliferation of the cellular elements, bone or cartilage was developed. M. Baikow's results are in opposition to those of M. Ollier, but corroborate those of M. Goujon.—*Lancet.*

Influence of the Child in Parturition.—Dr. Villeneuve, after a lengthened inquiry, has published a long work on "The Proportion which exists between the Size of Children and their Vital Resistance in Normal Parturition." He has established, amongst other interesting facts, that of large children the number of boys is greater than that of girls; that the vital resistance of either boys or girls is in direct ratio to their development; that the deaths of mothers are the more rare in proportion as the children are larger, provided that the pelvis and the presentation are normal. Nothing would seem more reasonable to suppose, than that the larger the children are, the greater the obstacles to birth they meet with. This is Simpson's theory, and it is a satisfaction to be assured that the hypothesis is incorrect.—*Med. Press & Circular.*

Cæsarean Operation after the Death of the Mother; Child Saved.—Dr. Beckmann published in the *Berliner Klin. Woch.* of Dec. 20th, 1869, the case of a woman, aged twenty-five, who, in the eighth month of pregnancy, died of apoplexy. With the consent of the husband, the Cæsarean operation was performed within five minutes after the mother's death, and a male child, weighing hardly four pounds, extracted. It was seemingly dead, but by dint of persevering efforts at artificial respiration, life was recalled; and by means of breast-milk obtained from a neighbor, the boy did well, and has been frequently seen by Dr. Beckmann since March, 1867, when the operation was performed. A similar case has been published by Dr. Ploss in *Monatschr. für Geburt. und Frauenk.* of August, 1869.

Pain after Operations.—The narcotic effects of chloroform or ether destroy pain during operations, but many patients suffer severely after the narcotism has gone off. To prevent this, Professor Sédillot, of Strasburg, proposes to divide the tissues with the platinum wire brought to white heat by the galvanic current. This division should be effected very slowly, so as to prevent hemorrhage. The author states that no pain is felt on awaking; that the wounds heal extremely well, and that hospital complications do not occur.

Medical Items and News.

The Sewing Machine on the Health of Female Operators.—Dr. Decaisne (*l'Union Médicale*), after a careful investigation of 661 female operatives upon the sewing machine, proves that these operatives are not, as has been pretended, more subject than other working-women to metrorrhagia, peritonitis, miscarriage, and leucorrhœa; and that the cases which have been reported are evidently simple coincidences, and the result of a labor too severe for the woman's strength.

As regards the machines with the women as motive agent, those with isochronous pedals should be preferred to those with alternate pedals; in this way the operator is guarded from any excitation.

The Age at which Menstruation Commences.—Dr. Walter Rigden (*Lond. Obstet. Trans.*) gives the subjoined statistics obtained from females who were confined at *University College Hospital*. In 2,696 cases menstruation occurred for the first time:

At the age of	9	in 3	cases.	At the age of	18	in 150	cases.
" "	10	" 14	"	" "	19	" 76	"
" "	11	" 60	"	" "	20	" 29	"
" "	12	" 170	"	" "	21	" 7	"
" "	13	" 353	"	" "	22	" 3	"
" "	14	" 560	"	" "	23	" 2	"
" "	15	" 540	"	" "	24	" 0	"
" "	16	" 455	"	" "	25	" 0	"
" "	17	" 272	"	" "	26	" 2	"

It appears that it is most common at 14 years of age.

American Pharmaceutical Association.—This Association, after an interesting session of three days at Baltimore, Md., adjourned Sept. 15th. The next place of meeting is at St. Louis, on the second Tuesday of September, 1871. The following officers were chosen for the ensuing year. *President*, Richard H. Stabler, of Virginia; *First Vice-President*, Fleming G. Grieve, of Georgia; *Second Vice-President*, James G. Seede, of California; *Third Vice-President*, E. L. Massop, of Missouri; *Treasurer*, Charles A. Tufts, of New Hampshire; *Permanent Secretary*, John M. Maisch, of Pennsylvania.

The Oldest Man in New York State.—John Jackson, a farmer at Good Ground, N. Y., is claimed to be the oldest man in the State, being 115 years old. He witnessed many of the events which occurred during the revolutionary struggle. His wife died two years ago at the ripe age of 99 years. He has had 12 children.

A Course of Instruction in Ophthalmology and Otology.—A practical course of instruction on these subjects will be given at the Manhattan Eye and Ear Hospital, by Professors C. R. Agnew, M.D., and D. B. St. John Roosa, M.D.; and Drs. Edward G. Loring and Edward Curtis, during the months of October, November, and December, 1870. A similar course will be given during the months of February, March, and April, 1871.

Important Visitors to this Country.—It is announced that Prof. Tyndall, the physicist, Dr. Hooker, the renowned English botanist, and Prof. Huxley, the zoölogist, will visit the United States and Canada in 1872.

The Speculum.—Recamier enlarged his speculum in 1816, and introduced it to the world as a new and hitherto unknown mode of investigation, although it was well known and in constant use by the earliest practitioners of Egypt, Greece, and Rome.

Vital Statistics.—In New York, in 1810, one-half of all the persons who died were twenty-four years of age and upward; in 1820, half of the deaths were of persons only twenty years of age; in 1830, ten years of age equally divided the number of deaths; in 1840, half of all who died were only five years old; in 1850, at four years and under were half the deaths; in 1857, half the deaths were of children two years old.

In 1807, one-half of all the deaths in Philadelphia took place after the twenty-fourth year of age; in 1820, half the decedents were not yet twenty years old; in 1830, half the deaths were under sixteen years old; in 1850, half the decedents were under five years of age; and in 1856, one-half were under four years of age.

During the four years ending February 28th, 1870, there were reported to the Health Office in Cincinnati, 17,983 deaths. Of this number 8,659 were children under five years of age, or nearly one-half; and of these 80 per cent. were under two years of age.

Death of Russian Lady from Glanders.—We learn from the *Court Journal*, that the charming Madame Palesikoff was taken ill with glanders, in Berlin, and died in a few days. One of the horses belonging to her carriage touched her cheek and caused the trouble.

Placentitis.—Inflammation of the placenta is of rare occurrence, and was first mentioned by Guillemeau, in 1648, in his "Œuvres de Chirurgie." Brachet, in 1828, fully described the condition of hepatization, which he considered one of the stages of inflammation. It was recognized also by Désormeaux and Paul Dubois, and others down to our own times.

The Force of Uterine Contraction.—The extreme force of uterine contraction produces a pressure of 3.402 lbs. per square inch, which is equivalent to a pressure of 54.106 lbs. acting upon a circle of 4¼ inches in diameter, which is assumed as the average area of the pelvic canal.

The maximum force used to expel the fœtus, by both uterine and abdominal muscles combined, is estimated by Joulin, by forceps experiments made on the dead body, at 110.23 lbs., a result which is regarded by Dr. Duncan as too large. Dr. Duncan considers 80 lbs. as the maximum force ever employed in difficult cases. This would correspond with an hydrostatical pressure inside the uterus of 5.03 lbs. per square inch, which is greater than the uterine muscles, unaided, are capable of producing.—*Dub. Quarterly Journ. Med. Sciences.*

Vaccinal Syphilis.—Dr. W. B. Davis, in his interesting report to Ohio State Medical Society (*Cin. Lancet and Observer*), on "Is there danger of conveying other constitutional affections than vaccinia, by means of human vaccine lymph?" truthfully asserts that it is opposed by the experience of the greatest vaccinators and syphilographers. West, with an experience of 26,000 vaccinations; Marson, with 40,000; Sir W. Jenner, with 13,000; Seaton, with 50,000; Tompkins, with 50,000; Perkins, with 40,000; Loines, with 200,000; Clendenin, with 16,000, and many others which might be named, have never met with a case of vaccinal syphilis.

This opinion is supported by M. Guerin's terse assertion in the Paris Academy, that "Vaccination is not a port of entry for syphilis, but a means of exit."

He closes the report by quoting the declaration of Dr. Anstie: "Vaccinal syphilis is a bugbear and a phantom."

Paris.—According to the census of 1866, Paris had 1,825,274 inhabitants, and about 90,000 houses.

Wisconsin State Medical Society.—The Medical Society of the State of Wisconsin held its regular annual session in Milwaukee, on the 15th, 16th, and 17th of June, 1870, its President, Dr. S. Marks, of Milwaukee, presiding. The following officers were elected for the ensuing year: *President*—Dr. H. P. Strong, of Beloit. *First Vice-President*—Dr. Darius Mason, of Prairie du Chien; *Second Vice-President*—Dr. A. H. Van Nostrand, of Madison. *Secretary*—Dr. J. T. Reeve, of Appleton; *Corresponding Secretary*—Dr. R. D. McArthur, of Milwaukee. *Treasurer*—Dr. J. T. Reeve, of Appleton. Drs. J. Bartlett, H. Van Duzen, and L. S. Burrows were re-elected as *Censors*.

The Fœtus.—Dr. Palmer, of Wisconsin, alludes to a case in which a seven months' fœtus was found to be entirely destitute of any trace of osseous matter.

A Venerable Practitioner.—Dr. Theophilus Clark, of Tinmouth, Vermont, now 98 years old, and still hale and hearty, has practised his profession 66 years.

Berkshire Medical College, Mass. — This time-honored college was sold in August last to Dr. F. A. Paddock, of Pittsfield, Mass., for $8,150.

Injected Placentæ—Dr. Jas. T. Whittaker, Cin., Ohio (*Am. Journal of Obstetrics*), in his voluminous prize essay on "The Morbid Anatomy of the Placenta," states that the museum of Prof. Hyrtl, of Vienna, contains the most wonderful collection of injected placentæ—over 200 specimens.

City Hospital of Cincinnati.—At a late meeting of the Trustees of this Hospital, Dr. W. B. Davis proposed that the staff be requested to prepare an annual volume of reports. The proposition was approved and referred to the staff, who will issue the first volume in March, 1872.

The Epidemic of Small-Pox in Paris.—During the months of January, February, and March, 1870, eight hundred and ninety-six deaths from this disease occurred in Paris. It has been very destructive to children under three months of age, showing that vaccination ought always to be done as near birth as possible.

Absence of Uterus in Two Sisters.—A patient, aged 20, was lately in Guy's hospital, under the care of Dr. Phillips, in whom no trace of an uterus could be felt. She was of dark complexion, and was rather diminutive in stature. The external genitals were perfect; the pubes was covered with hair; and the mammary glands were well-developed. The vagina was represented by a short but dilatable canal ending as a *cul-de-sac*, in the mucous membrane of which there were three small apertures. By means of a careful pelvic examination, the uterus was found to be wanting, and no ovaries could be felt. She had been subject, since her marriage at seventeen, to pain in the loins, to sickness and headache; and these were increased in severity for a few days every month; but there had been no hemorrhage from the vagina, nor from any other part.

The patient stated that one of her sisters had never menstruated; and when the latter, aged 21, presented herself among the out-patients, it was found that a similar malformation existed. She also was married; was very like her sister in appearance, but taller; and, on examination, was found to have a short vagina, but, as far as could be ascertained, no trace of uterus or ovaries. —*British Medical Journal.*

Gonorrhœa.—According to Dr. Black, of Glasgow, married men have never been known to contract gonorrhœa from their wives.

New Preserving Fluid for Preparations.—M. Méhu, pharmacien of the Necker Hospital, states that for the last two years he has been experimenting with various antiputrescible fluids for the preservation of anatomical specimens, and has at length discovered one which answers excellently. This liquid only contains a small proportion of alcohol, and hence does not cause any considerable contraction of soft textures, which with him have chiefly been portions of the mucous membrane of the bladder, prostate, &c. It contains arsenious acid, which preserves them from decomposition, and the development of cryptogamic vegetation is prevented by the addition of a small quantity of crystallized carbolic acid. The formula is—Arsenious acid, 20 parts; crystallized carbolic acid, 10 parts; alcohol, 300 parts; distilled water, 700 parts. The preparation of this fluid has led him to notice the great solubility of arsenious acid in alcohol, which has not hitherto attracted attention.—*Lancet.*

Bromides in Epilepsy.—Benjamin Swan, M.D., of San Francisco, Cal. (*Am. Jour. Med. Sciences*), cites numbers of cases of epilepsy, all seeming to prove that a point is finally reached when the system becomes insensible to the action of bromide of potassium.

He believes the bromides to be the best remedies in epilepsy, but he has yet to hear of a case that was perfectly cured.

Rhinoderma.—Under the name of *Rhinoderma* Dr. C. Hilton Fagge, of London (*Guy's Hospl. Reports*), describes a disease, called by Devergie pityriasis pilaris, in which the skin is rendered rough like a rasp by the presence of horny accumulations in the mouths of the hair follicles.

Vomiting and Purging in Cholera Infantum.—B. M. Wible, M.D., of Louisville, Ky. (*Am. Practitioner*), uses the following formula when vomiting and purging are prominent symptoms: ℞. Tinct. opii, gtt. xvi; potas. bicarb. 3 ss; syrup. simplicis, 3 iij; aquæ menth. pip. 3 x. M.

Of this a teaspoonful is to be administered after each act of vomiting and purging. This prescription has answered his highest expectations.

A Dictionary of Science.—Moxon & Co., of London, will shortly issue a new Dictionary of Science, which is under the supervision of Mr. G. Farrer Rodwell.

A New Use for Glycerine.—Small quantities of glycerine are added to paper stock to give the paper greater flexibility, but especially to give copying paper the quality of taking up color readily.

A New Method of Purifying Gas.—Mr. Emerson McMillin, Superintendent of the Ironton Gas Works, Ironton, Ohio, finds that grind-stone dust, from factories where iron and steel tools are ground, entirely overcomes the inconvenience and disagreeabilities of the process of gas-purification. This dust is an intimate mixture of microscopic particles of silicic acid and iron. The grind-stone dust is sometimes mixed with clay, and dry lime, or loam; this serves to absorb the ammonia and the carbonic acid of the gas.

Statistics of Life.—The yearly mortality of the globe is 33,333,333 persons. This is at the rate of 91,554 per day, 3,730 per hour, 62 per minute. One-fourth of the population die at or before the age of seven years. One-half at or before 17 years. Among 10,000 persons, one arrives at the age of 100 years, one in 500 attains the age of 90, and one in 100 lives to the age of 60.

Original Lectures.

ANTIPHLOGISTIC TREATMENT IN DISEASES OF CHILDREN:

REMARKS BEFORE THE NEW YORK MEDICAL JOURNAL ASSOCIATION, APRIL 15 AND 22, AND MAY 27, 1870.

By A. JACOBI, M.D.,

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Lecture III. Part II.

[Phonographically reported for the Record.]

I come now to speak of those antiphlogistics used in chronic inflammations—that is, in inflammations where the first change of an inflammatory character has passed by, and changes in tissue have taken place; the new-formed cells of the active stage have passed, for example, into fibres of connective tissue, or have undergone a degenerative change into pus. The remedies chiefly used in chronic inflammations are iodine and mercury.

IODINE.

The preparations of iodine most in favor for internal administration are the iodide of potassium, the iodide of sodium, and perhaps also the combination of iodine with iron. It has long been known, from clinical experience, that iodine has a good effect in inflammatory diseases of the glandular tissue. But it is necessary to distinguish between the different kinds of glandular inflammation, and I shall speak of this the more at length because the subject is so important in practice among children.

Inflammatory enlargement of a lymphatic gland takes place either from increase of the number of glandular cells, that is, hypertrophy of the gland proper, or from increase of its connective-tissue cells and fibres. The results of these two kinds of enlargement are very different, and so, too, is the frequency of their occurrence. Increase of the glandular structure proper, without complication, is extremely rare, while increase of the connective tissue alone is very common, and gives rise to a large number of chronic glandular diseases. The process is this. We have, say, a local inflammation of some of the glands of the neck from eczema of the scalp, or inflammation of some of the mesenteric glands from diarrhœa, that is, congestion and catarrh of the intestine. Hyperplasia of the connective tissue of the gland takes place, resulting in compression, and finally in obliteration, of its lymphatic ducts, and even of its blood-vessels. Cut open such a gland, and you find it unusually white in color, and very dense in structure. Clinically it is found no longer to perform its functions; it is useless in effecting the further development of the lymph-corpuscles. Indeed, a gland which has undergone this kind of hypertrophy is worse than useless; it is in the way, by compressing the parts in its neighborhood. Hypertrophy of this kind will hardly yield to medical treatment. The great majority of the cases of enlarged lymphatic glands above the region of the neck are of this character. Thus the deep-seated facial glands under the lower jaw, after having been long enlarged, will rarely be found amenable to any treatment but the knife. So, too, enlarged tonsils will seldom get well under iodine treatment; and if the enlargement be of long standing it is well known of how little service are all our caustic applications, though, if recent, the iodide of potassium or sodium, or the tincture of iodine, may do some good. There is no communication between the blood-vessels of the skin and the few blood-vessels left to supply the gland after chronic induration; and as we expect the iodine to reduce the induration, if at all, by its action as a local irritant over the affected part, we should not look for much good, in such cases, from painting the skin over the gland. The iodide of potassium given internally (or the iodide of sodium, which I prefer as being more digestible) may have more effect, because it enters the general circulation, and so enters the gland with the blood. It will act with benefit before the connective-tissue fibres have become fully developed, but not afterwards. The same thing may be said of the treatment of cirrhosis of the liver, interstitial inflammation of the lungs, etc., where we have the same kind of new formation. Fully developed connective-tissue fibres are not influenced by iodine.

A mode of applying iodine which I have often resorted to, especially in glandular affections about the neck, is not, I think, in common use. If we can apply our remedy directly to the lymphatic absorbents going to the affected gland, we certainly do better than if we exhibit it internally and run the risk of its being lost. Now, the lymphatic glands of the neck can be so reached. For example, most of the lymphatic glands in the neighborhood of the parotid and of the arch of the inferior maxilla, the majority of which are covered by the sterno-cleido-mastoid muscle, can be reached through their absorbent vessels situated in the lower portion of the nose and in the cavity of the mouth. By applying, according to E. Schönfeld, the iodide of potassium locally, either in powder or in solution; by painting the tonsils and the pharynx with tincture of iodide; by now and then using a mouth-wash of iodide of potassium, especially for glands situated near the median line—we can get the discutient action of iodine upon these glands much better than in any other way. I am confident that I have thus obtained good results where I had long given up other treatment in disgust.

The use of tincture of iodine as a local derivative is too familiar to be spoken of. I believe that in recent cases of glandular swelling it will do good in this way, simply as a derivant, and not that anything is absorbed through the skin, for if there be any absorption at first, there will not be after a few applications.

The salts of sodium being all more digestible than those of potassium, I prefer the iodide of sodium to that of potassium. It requires a larger dose, however—about double. Where I should give a baby four or five grains of iodide of potassium in the day, I should give eight or ten of iodide of sodium. As to salves, from those usually found made up I have seen no effect; and I think iodine is never found in the urine after their inunction. A better vehicle to insure the absorption of iodine by the skin, where the stomach refuses it, is glycerine. It is a positive fact that iodine will be found in the urine within twelve hours after the first embrocation of a solution of iodide of potassium in glycerine. I usually dissolve about half an ounce, or less, of the iodide in an ounce of glycerine.

MERCURY.

Mercury is a drug which we all know is used a great deal as an antiphlogistic, in acute as well as in chronic diseases. I have not the slightest doubt that it is used much more than it ought to be, and especially in diseases of children.

It has been said that it is much better tolerated by infants than by adults, and this has been taken as a reason for dosing them with it. It has been said that

infants will not be salivated by mercury. True enough, and for the best of reasons. Infants, up to the end of their third month, have, as it were, no salivary glands —at least no genuine salivary secretion. This much has been proved by the researches of Prof. Ritter of Prague. (There is an exceptional case on record of secretion of saliva at the seventh week.) And if these glands are thus rudimentary, we should not expect to find even a morbid secretion excited by agents which would affect them powerfully when more developed. But, it is argued, even older children are not salivated so readily as adults. This is chiefly because they have fewer teeth; so the mercury has less chance to be retained in the mouth till it is absorbed, to be thrown again into the mouth with the saliva, and then reabsorbed, thus producing the maximum local effect, as in the salivation of adults.

The general effect upon the system, however, remains the same; and it is this general effect which is the very worst in any inflammatory disease, especially of children. Mercury is said to have an antiplastic effect, to diminish the fibrine in the blood. But inflammation means now a very different thing from what it did formerly. We know that when the blood is thinner than normal, inflammatory effusion and exudation, like effusion generally, will take place more readily. So, whatever we do to change the blood, except to improve it, is, in my opinion, injurious, no matter what the disease we have to deal with. If an inflammatory disease has a tendency to effusion, and if, moreover, it has a tendency to debilitate the system by impoverishing the blood, we should avoid every remedy which will conduce to this impoverishment, as mercury will certainly do.

Again, the principal effect of mercury is not one rapidly developed; it requires a great number of small doses to obtain it within a day or two. But in the inflammatory diseases of children the effect we seek must be a very speedy one; unless we can get it within a day or two we may as well give up the attempt, for before that time effusion would be established; the inflammatory action of exudation would be completed, and then the regular process of disintegration and absorption must take place—a process better carried on by good normal blood than by blood impoverished by debilitating drugs. Clinical experience testifies that whatever we do to weaken the blood interferes with rapid convalescence after an inflammatory disease. I have myself said that, in former years, I was often under the impression that I cured the disease and yet lost my patient. This was when I used depletion now and then, and mercury on a large scale.

I believe that is all I have a right to say concerning mercury as an antiphlogistic. Of my own habit I may simply remark, that although I see a large number of diseases of children in private and dispensary practice, I am seldom under the necessity of using it. Perhaps I am a little pedantic in the matter. I have made it a point to teach and to prove that mercury is given too frequently; that it is apt to do harm; and that the effects we seek from it can be gained as well by other remedies. Therefore, in diarrhœa, etc., where mercurial preparations are so often used, I have made it a rule to give them as rarely as possible—indeed, I may say, never. I have forbidden the use of calomel and its cognates to all my dispensary and clinic patients; there is not one of them that has had a grain of calomel for ever-so-many years. I make this statement, pedantic though it seem, to show that we can get along without mercury in most of the cases where it is usually given. There is but one class of affections in which I would and do employ it—that in which a new formation is of a heterogeneous character, as, for instance, in syphilis. I seldom use anything else than calomel in the syphilis of the new-born; almost never do I find it called for in any other disease.

ELECTRICITY.

Of one other remedy, lately brought into vogue, I may say a few words. Electricity is to be accounted among the antiphlogistics, especially in chronic, but also in acute, cases. The constant current, in particular, may be used for the direct purpose of contracting the blood-vessels through its action on the sympathetic nerve. Applied to the sympathetic in the neck, it has been so employed in inflammatory or congestive affections of the brain. I have myself no experience in that matter. Benedict speaks of having used it in cases of so-called tubercular meningitis, especially some in which he could watch the progress of the disease with the ophthalmoscope. At the same time I must add that he, as well as every other electrician, denies the assertion that the condition of the circulation in the retina and choroid can be taken as a positive index of that in the brain. The blood-vessels of the retina perforate the sclerotic, a dense and hard membrane. In case of active hyperæmia, which may be local or extensive, and consecutive swelling, the return of the blood is impeded. The results are stagnation, dilatation of vessels, proliferation of connective tissue; finally *diminished* circulation, and atrophy of vessels and nerve tissue. Thus the very same condition of the brain may give rise to different ophthalmoscopic results. The enthusiasm about the ophthalmoscopic examination of the retina, and its importance in the diagnosis of encephalic inflammation, dates from Bouchut, who, after he had seen a number of cases, published a very big book and a large atlas, to show that he could discover tubercular meningitis in its incipient stage. It is not strange that such an alleged discovery, concerning a disease so fatal, should have excited much enthusiasm, and stimulated the hope that a readier diagnosis might lead to better means of treatment. But, though Bouchut has merits of his own, I think he is here at fault. We cannot detect cerebral hyperæmia in this way. Yet the ophthalmoscope has done something for diagnosis. Miliary tuberculosis of the choroid has, by its means, been discovered in, now, perhaps two dozen cases, sometimes even before brain symptoms set in, so as to be conclusive of tuberculosis of the brain; but it was done by the discovery of the tubercles themselves in the retina. Thus far, however, no improvement in treatment has resulted. I make these remarks simply to show how easily enthusiasm, while capable of opening new fields of research, and conquering new facts, may lead sound judgment astray. We have not succeeded yet in reading the condition of the brain from the open leaf of the retina.

So much for the galvanic current in its influence on acute inflammations. It has, I think, a better influence in chronic cases. Its chemical action is well known. When the constant current is passed through water, it will decompose it. Similarly, solutions of alkaline salts are decomposed; iodide of potassium, for example, will show the potassium collected at the negative pole. Now if, by means of gilded needles, etc., the galvanic current is passed through any tissue, both the salts and the water of the tissue will be decomposed; and when its salts and its water are broken up, the tissue itself is broken up. Many cases have shown that new-formed morbid growths may be broken up in this way; but not only these, healthy tissue will yield as well. Althaus has proved that bone, teeth, and other tissues are decomposed with a facility proportionate to the amount of water they contain. I have found, in a

number of instances, that the electric current would produce absorption where iodide of potassium, etc., had no effect. Thus in a case of indurated mastitis of the newly born. At the same time I must say that in a number of cases it has proved unsuccessful, in all probability from an as yet insufficient knowledge of its powers, or from their improper application.

In the application of the current to cancerous tumors, etc., I have but little experience; enough, however, to show me that I cannot concur in the views of those who say that the current, whether applied by the sponge-electrodes or by gilt needles introduced into the tumor, will never produce suppuration and sloughing. That it will sometimes occasion these I know, for I have seen it. But I have seen a few instances where tumors undoubtedly scirrhous have become reduced in size under this treatment. A case of which I am now thinking is that of a woman with scirrhus of the left mamma, upon whom I have operated now four times. The first operation was seven years ago; the other three were simply to remove portions of the cicatrix, the last of them for the purpose of proving, before the Pathological Society, that the case was one of scirrhus. That case has been treated by the galvanic battery, and in every instance, after a few applications, the swellings would diminish in size; yet in that case, even when the needles were introduced, I have seen suppuration occur.

It does not belong to me here to speak of the cases of stricture, affections of the uterus, etc., which have been treated by the galvanic current. I mention them merely because so much has lately been written on the electrolytic treatment; and because I have seen many chronic inflammatory swellings go down under the influence of galvanism, in part, doubtless, from its electrolytic action, and in part from the local irritation.

Still it is true, also, that tumors will give way under simple faradization; and it is only justice to give credit to a writer who published two little books on the subject eighteen years ago, but is now almost forgotten by electro-medical authors, even by our own Morgan, whose knowledge of literature was astonishing. I refer to Hassenstein, who gives a number of instances in which swellings were diminished by the induced current, among them a bubo.

I may be pardoned for dwelling so long upon this subject, because, although I believe the enthusiasm concerning it has gone a little too far, I am yet convinced that electricity, and especially the constant current, will have a great effect upon many chronic diseases, and may possibly prove very valuable in the treatment of brain affections, chiefly, perhaps, by modifying the circulation.

DIET.

I have omitted to speak of diet. If I were to make any remark upon it, it would be to endorse what Dr. Flint said so admirably, in a paper read before the County Society, and since printed in the *New York Journal*.* I said just now that convalescence was often protracted by the effect of debilitating drugs; on the other hand, if there is anything that will bring about speedy recovery it is good feeding. Dr. Flint makes one remark, however, with which I cannot agree, and this is the only exception I would take to his paper. He says, if I am not mistaken, that if we give food in excess of the demands of the system, it does no harm, for the surplus is easily eliminated. But I think that we may feed too much; and that, especially in acute inflammatory troubles, we may thus injure the patient. Children with an acute inflammation ought not to eat much, but they have a strong desire for drink; by eating they will increase the amount of waste matter that is to be eliminated before health can be restored, and so will feed the fever instead of themselves. It is very important to forbid the nursing of babies too frequently in inflammatory and ephemeral fever. In pneumonia, for instance, we commonly find the infant is not given enough water, but whenever it wants to drink is fed from the breast; and thus is increased the gastric catarrh which we always have in fever. This indiscriminate nursing, because the baby is "thirsty," must be firmly prohibited, and plenty of water allowed.

One remark further. At a certain period of the fever, when the temperature goes down, and we have a right to expect that absorption will take place, we should commence to feed, no matter whether the child shows appetite or not. When the stomach has been lying idle for some time, there is a great deal of waste material, mucus, etc., coating its surface, with a deficiency of gastric juice and pepsin, even when food is introduced. We should introduce food, then, to exercise the stomach, and assist it in throwing off the mucus and old epithelium. The French have a proverb that appetite comes during eating; and we find that when children, at the stage of fever I have described, have been fed once or twice, they recover their appetite.

* *N. Y. Med. Jour.*, Feb. 8, 1868. See report in MED. RECORD, vol. iii, p. 18—REPORTER.

A LECTURE
ON
THE MENTAL STATE OF EPILEPTICS,
AND
ITS MEDICO-LEGAL RELATIONS.

BY MEREDITH CLYMER, M.D.

PART I.

BEFORE finishing the subject of epilepsy, let me ask your attention to a brief inquiry into the mental state of those afflicted with it. We will endeavor to ascertain by clinical analysis the frequency, kind, and degree of psychical troubles which so commonly attend this malady. I believe that in every case of epilepsy there is some modification of mental tone, but it may be of a kind and degree not to affect either the moral or legal responsibility of the individual. We may have the whole gamut of insanity sounded from irascibility and capriciousness of thought, feeling, and conduct, to the most terrible explosions of maniacal fury. Esquirol speaks of the intellectual faculties of the epileptic becoming more and more degraded, and of the tendency to moral perversion. Of 339 epileptics, he found 269, or four-fifths, suffering with some degree of insanity, leaving only one-fifth in the enjoyment of their reason, and he remarks, "What sort of reason?" Musset says:—The senses become obtuse, the intellect is weakened, and memory lost, and there is incapability of sustained thought and work, dementia, in the majority of cases, being the usual ending. J. P. Falret observes (*Des Maladies Mentales*, Paris, 1864, p. 339):—"It is certain that very many cases of epilepsy are accompanied by some disorder of the intellect which has a decided analogy to that met with in a large number of the chronic diseases of the brain, and of which the upshot is dementia or idiotism. This trouble is as natural a consequence of the principal disease as those partial par-

alyses so frequent after epileptic fits, and should not be separated from the disease upon which it depends. On the one hand we have cases of mental derangement, accompanied by vertigo or even true epileptic attacks, and which are chiefly characterized by their short duration, intermittent type, outrageous exhibitions of passion, and by hebetude and want of memory after the paroxysms; cases so distinctive in their character as to merit the name of epileptic insanity. Doubtless these distinctions, which seem to us so clear in principle, are often difficult to establish in practice; but is not this rather owing to the present imperfectness of the diagnosis of cerebral diseases?" Trousseau says: "You are well aware that this fatal influence of epilepsy on the intellectual faculties, of which dementia, idiocy, and general paralysis are the ultimate expression, is a well-known fact, which has been long ago pointed out. If there have been epileptics who, in spite of more or less frequent attacks, have retained, to the end of even a pretty long career, not only the fulness of their reason, but also the full force of their intellect, and like those men of genius, whose names history has handed down to us, have preserved that superior intelligence which enabled them to rise above the ordinary level of their fellow-men, instances of this kind are too exceptional to invalidate in the least the general law. In the great majority of cases, although in the beginning, and when the attacks are infrequent, the patients are in the full possession of all their faculties, although a marvellous aptitude for conceiving things quickly, or viewing them under their most brilliant and poetical, aspects may distinguish some of them, as Dr. Morel has remarked; yet in proportion as the fits recur and increase in frequency, in proportion as the disease progresses, the faculties fail, are impaired, become gradually extinct, and insanity follows."—(*Clinical Medicine*, Bazire's translation, vol. i., p. 66.) On the other hand, Dr. J. Russell Reynolds states, as the result of his inquiry into the mental condition of epileptics, that there is no necessary relation between any form and degree of mental deterioration and epilepsy. Still his statistics show only about one-third of his epileptic cases in which there was perfect (*i.e.*, average) mental integrity; in a little less than two-thirds there was some intellectual failure, but this existed in a high degree in only a very small proportion. Women he found to suffer more frequently and more severely than men, and the commonest form of failure to be that of defective memory, this faculty being lessened especially in regard to recent and trifling events (*On Epilepsy*). This statement, accurate, no doubt, so far as Dr. Reynolds's cases are concerned, is certainly at variance not only with the general belief, but with the experience of almost every other observer, and with what we might naturally expect to happen. Still, as the opinion of a very eminent, trustworthy, and conscientious physician, and one of large knowledge of this malady, I have thought it right to mention it to you. His analyses of the conditions which determine mental failure in the epileptic are valuable and instructive, and I will give you a brief of them:—

Hereditary taint is without influence. The age at which epilepsy begins has a certain degree of influence, and to this effect—when the disease appears late in life, it is more commonly connected with mental failure, and the chances of mental failure are less than when the first attacks happen before puberty. Late, rather than early, epilepsy then predisposes to intellectual deterioration, and this, whether we divide the cases at the tenth, sixteenth, or twentieth years; and whether we consider the two sexes together, or each separately. The duration of the disease is, *per se*, without influence upon the mental condition of the intellect. The amount of mental deterioration is not in direct, but in inverse, proportion to that of muscular disturbance, as shown by the presence of tremor or spasm, either clonic or tonic. The state of the general health does not account for that of the mind; the former may be good, and the latter bad, and *vice versâ;* and contrary to what would be expected, such relation is more usual than the co-existence of marked failure or integrity in both directions. The number of attacks does not determine either the degree, or the existence of intellectual change; but frequency of recurrence of seizures is, however, associated with it, but in such manner as to show that it is not the sole condition of such result, and that it is not even a necessary condition. The severity of the convulsive paroxysm is without apparent influence, when it is judged of by the duration of the following coma. The form of attack appears to have considerable influence. Neither seizures of *le haut mal*, nor those of *le petit mal*, necessarily induce this change; but the mental deterioration of epileptics is much more clearly associated with the minor than the severer seizures. The nature of the exciting cause—that is, whether psychical or material—seems to be without influence in the production of mental change.

I have already had occasion to mention the uneasy, depressed, irritable state that so often immediately precedes the fit, and the disturbance both of the affective and intellectual faculties which is frequently manifested directly after, and may persist during a large part, or the whole, of the interval between the attacks.

The testimony of nearly all observers is, therefore, that epilepsy, whether in the lesser or more classical form, exercises a pernicious influence on the psychical faculties of its victims. A troubled brain is, I believe, the rule with epileptics; they dwell on the border land of insanity, into which they are liable at any moment to make an excursion, and where they may be condemned to dwell. That the existence of the malady is not incompatible with extraordinary intellectual power I do not deny; I have seen instances myself, and there are several familiar stock cases cited by authors, the most remarkable amongst them being those of Cæsar, Mahomet, and Napoleon Bonaparte. The imperial biographer of the great Roman denies that the two nervous attacks which he had, one at Cordova, and the other at Thapsus, were fits of genuine falling sickness. There is no real proof that Napoleon was subject to epilepsy, whilst there is much to discredit it. But where genius and epilepsy have indisputably coexisted, there have been nearly always, so far as my knowledge and experience go, a nervous constitution, singularities of thought and ways, which not unfrequently have sooner or later developed into some form of decided mental disorder. Children, who in after-life become epileptic, are often remarkable examples of precocious cleverness; they are bright, quick, full of imagination, and have astonishing memories, but are apt to be shy, tetchy, and quick in quarrel, and are almost always liable to sudden gusts of temper. These unnatural gifts, too, are not lasting; the promise of the child is not fulfilled; he becomes stupid, morose, fearful, and blustering. The cerebral excitement is the evidence of the morbid germ which later is to be developed.

In the epileptic the affective faculties chiefly suffer. The disposition is apt to be moody, fitful, suspicious, and quarrelsome. Offence is readily taken; there is a fancy to tease and annoy, and to be troublesome; and a dread of insult or injury. The moral qualities are perverted, and the sense of propriety, decency, and duty obscured or lost. The char-

acter may change—the temperate become addicted to drink and other excesses; those who have been especial favorites or greatly loved objects of hate or mistrust. Some fancied injury or slight brings on a burst of temper, with violent gesticulation and threatening language, which generally ends in words.

An epileptic is often of very variable mood, and his changes of humor are frequent and rapid. He who a few hours before was wayward, cross-grained, spiteful, and rebellious, may be engaging, docile, courteous, or even cringing. One who has been left a short time before cheerful, gay, hopeful of the future, and full of love and kindness, may be seen

—— sitting on the ground
Musing full sadly in his sullein mind,

deploring his sad fate to be condemned as a man forbid to banishment from friends and family, and inveighing in all the bitterness of his heart against his immedicable ill.

At times the same sort of mental exaltation may be met with which characterizes the general paralysis of the insane. There is unnatural hilarity, absurd estimate of executive ability, and exhaustless projects of impossible execution.

A large number of epileptics fall into dementia.

The psychical phenomena to which I wish at this time particularly to direct your attention are, though perhaps of the same kind, are more distinctive in their character, and more marked in their manifestations, and are sometimes the only objective indication of the disorder. They may not only precede or follow a regular fit, but they may take its place, and constitute actually a masked epilepsy. These points in the clinical history of epilepsy, of so much importance and interest to the psychologist and medical jurist, have not received the attention from the majority of writers on this malady that they merit, though a few have made them the object of particular study; but their essays are, for the most part, either not generally known, or of difficult access. I will endeavor to give you the results of these investigations, and shall begin by mentioning some clinical facts illustrative of the psychical derangements most often met with amongst epileptics, and more particularly of the rarer and least understood forms.

These psychical perturbations are characterized by sudden and irresistible impulses often of the most dangerous kind, accompanied with homicidal or suicidal tendency. Esquirol has called it *automatic fury*, and this term is strikingly indicative of the kind of mental derangement. Maudsley well remarks: It is not so clearly understood that the mental derangement so occurring may have the form of profound moral disturbance with homicidal propensity without manifest intellectual derangement. This writer points out the frequency of these precursory phenomena in children who subsequently become epileptic. He says, children three or four years old are sometimes seized with sudden fits of shrieking, desperate stubbornness, or furious rage, in which they bite, tear, and destroy whatever they can lay hold on; these may occur periodically, and may either pass in the course of a few months into developed epilepsy, or alternate with epileptiform attacks, representing a vicarious epilepsy.

Marc mentions a case of vicarious epilepsy in the adult: a peasant, aged twenty-seven, a victim to epilepsy since he was eight years old, had at twenty-five, when the convulsive fits ceased, an irresistible homicidal impulse. Often for days before, when he felt the warnings of an attack, which were weariness, depression, insomnia, and slight convulsive movements of the limbs, he begged to be confined that he might be hindered from committing a crime. "When the feeling comes upon me," he said, "I must kill some one, if only a child."

A shoemaker subject to severe epileptic fits, frequently followed by temporary attacks of fury, but who in the intervals was good-humored and docile, one day met the superintendent of the asylum, of whom he was very fond, and instantly stabbed him to the heart. He had not had a fit for three weeks, but the night after the deed he was seized with one, and others followed during some days.

Morel mentions the case of a boy at a boarding-school, who was suddenly attacked during the night without apparent cause; he rushed wildly up and down the hall of the dormitory, shouting and gibbering loudly, and seized one of his fellow-pupils who was trying to quiet him and attempted to strangle him. After some difficulty he was secured and put to bed, when he had an epileptic fit. The next morning he recollected nothing that had happened, but complained of feeling weary and exhausted.

Dr. Ludwig Meyer tells of a boy thirteen years old, who was subject to periodical attacks of fury, followed by epileptic convulsions generally but not always, the fits of furious maniacal excitement sometimes happening without the ordinary epileptic phenomena.

A Belgian named Rœgiers, 30 years of age, had been for seven years subject to epilepsy, the consequence of sudden fright. The fits after a while were accompanied with severe attacks of madness, so that every body was afraid of him; woe to the one who opposed him whilst he was suffering from the malaise preceding the onset. He had a foreknowledge of the attacks, and warned those about him. The fit over, he became, as he was naturally, calm and gentle, without any recollection of what had happened. The access took place commonly during the night, and was betokened by his face becoming very animated and congested; his eyes were brilliant and seemed to start from their sockets, his sight was dim, and everything around him confused; the veins of the neck were swollen, and up to the moment that the attack was fully developed, he struggled like a maniac, and was disposed to commit any violent act if not restrained. Rœgiers had had a quarrel with another man, in consequence of which he had been sent for some months to prison. On quitting the prison he assured B*** that he had no grudge against him, as he was not responsible for the act of the court. Some time after Rœgiers was seen quietly sharpening a knife on a grind-stone for over two hours, exclaiming from time to time, "I'll have your head." He left his house in broad day-light, knife in hand, and ran to the house of B., who lived in a populous quarter, and entered boldly. B. seeing R. come in armed with a knife, attempted to escape, but was pursued by R., who struck a blow at B.'s sister, while attempting to shelter her brother; reaching the latter, he threw himself on him like a tiger, and inflicted a terrible gash in his throat, thrusting in his fingers to enlarge the wound. The terrified bystanders refused any assistance until R. fell exhausted. Tried at the Brabant Assizes, he was condemned to death. He had no recollection of the horrid deed he had perpetrated, answering all the questions of the judge: "since you say so, I suppose it is so, but I know nothing of it." Subsequently his sentence was commuted to the galleys for life and one hour in the pillory. Whilst he was undergoing the latter part of his sentence he was seized with a terrific attack of convulsions.

Morel places the following case under the head of epileptic mania, though neither vertigo nor convulsions were at any time present, before or after:—

N***, when twelve years old, was violent and uncontrollable; on the slightest rebuke by his parents or teachers he would lie down and roll on the ground as if he had convulsions, seizing and biting furiously any object that was near, the attack of rage going off in a flood of tears. His temper was fitful, and he would pass from gayety to sadness and the reverse without reason. He was very combative, and constantly quarrelling with his companions. Married early and a father, his disposition did not improve, and terrific outbreaks of temper followed the most trifling causes. These were attributed to excess in spirituous liquors, but his wife remarked that he "would bounce with rage whether he had drunk anything or not." One day, after some harmless remark had been made to him, he rose, apparently perfectly calm, went to the stable, seized a knife, and ripped open the belly of one of the horses. At another time, while at the dinner table, utterly unprovoked, he suddenly broke a tumbler, ground it in small bits, and threw it into his soup, which he swallowed. It was sometimes several hours after such acts that the rage-fit exploded in terrible yells and horrible menaces against the members of his family. Once he precipitated himself on one of his children, helpless in bed with Pott's disease, and would have strangled it had not some one interfered. This man made three attempts at suicide, and after one of them his first act on coming to was to abuse those who had saved him, blaming them for all his sufferings.

Another, a female, forty-eight years old, had an attack eighteen months before, accompanied by violent acts and threatening language; after this interval there was another precisely similar. Both were of short duration. For some time after admission, Dr. Morel was undecided as to the state of this patient's mind, she was so calm, rational, and industrious. There was not the slightest evidence of any mental disturbance. One day, however, she suddenly began to use threatening language, and very soon followed the menace by an overt act of violence, and it became necessary to shut her up. So violent was this attack of rage, that she was no longer recognizable, and it was impossible to believe that it was the same woman who only the evening before was considered a model of gentleness and good behavior. After some days she resumed her duties with her usual willingness and good humor. Other attacks followed; the fits became more frequent; and after awhile her character began to change, and during the lucid intervals she was apt to be irritable, and easily provoked.

Another case of furious periodical mania may be cited: When admitted into Morel's asylum the woman was thirty-one years old; three years before she had had a fall on the head, since which time she had been subject to violent anger-fits, brought on by the slightest opposition or annoyance, and often without any cause. She would suddenly rise from the table, and pitch a plate, or anything she could lay hold of, at the head of some one in the room. These attacks were of short duration, rarely lasting more than one or two days. Since her admission the outbursts continued from time to time, without provocation. She is represented as having the peculiar shy character of epileptics—being abstracted, morose, apparently timid, and of weak intellect.

I will relate one more case, and a very instructive one it is, and I shall have occasion to again refer to it when I come to speak of the criminal responsibility of epileptics. It is that of Bisgrove, who had a narrow escape from the gallows, and which made a good deal of stir in England about two years ago. Bisgrove was an illegitimate child, badly cared for, and had been from youth of weak health and intellect. For several years he suffered from frequent epileptic fits, in consequence of which and his inability to take care of of himself, he had been discharged from the colliery where he worked. In the intervals of his fits he was good-natured and amiable, and liked by his companions, but after one of them he was dangerous, seizing upon anything which might be at hand, and ready to attack those who were near. Hoping that a sea-voyage might do him good, he shipped, but returned after a few months, unimproved. Bisgrove had the heavy, lost look, so common in confirmed epilepsy. Such was his condition when, one evening, after drinking a little, he saw a man unknown to him lying asleep in a field; he took up a big stone which was by, and dashed out the sleeper's brains. Having done this, he lay down by the side of his victim and went to sleep. When he woke, he was taken into custody, tried, defended (?) by counsel appointed at the last moment by the court, who said not one word of this creature's epilepsy, or of his previous history, and was condemned on circumstantial evidence, along with an innocent man, who gave a perfectly true account of his doings and whereabouts on the night of the murder, but was not believed. Soon after sentence, he made a confession of the crime, exculpating his supposed accomplice from any knowledge or part in it. A clergyman, struck with the strange character of the murder, made inquiries about the culprit's former life, found out that he was an epileptic, and had the proper representations made to the Home Secretary; a medico-judicial inquiry into the state of the prisoner's mind brought out the fact, a reprieve granted, and he was sent to Broadmoor Asylum. I shall presently have more to say about this monstrous error of justice.

PRACTICAL SUGGESTIONS

FOR THE

TREATMENT OF LACHRYMAL DISEASES.

BEING REMARKS MADE BEFORE THE N. Y. ACADEMY OF MEDICINE, SEPT. 15, 1870.

By C. R. AGNEW, M.D.,

NEW YORK.

The title of my discourse will relieve me from the necessity of attempting a systematic dissertation upon the general subject of lachrymal diseases, and show that my present purpose is to lay before you a few practical suggestions in such a manner as to make them, if possible, the property of all my hearers. The most common form in which incipient lachrymal disease presents itself to the practitioner is that of the weeping eye, as it is familiarly called, and a few words upon its pathology and treatment will naturally introduce our theme. It is observed that the patient begins to be annoyed by having his lachrymal secretion increased so as to overflow the edge of the lower lid, and trickle down the cheek, rendering the use of the handkerchief frequent.

This abnormity may follow an advancing catarrh of the eyes or nostrils, or come on gradually without any appreciable cause. When this state of stillicidium or overflow of tear occurs, the practitioner should examine with great care the puncta, to see whether they are of normal shape and in the proper relations to the surface of the eyeball. Abnormities in the inferior punctum are to be met with more frequently than in the superior, and their influence in producing stillici-

dium is much more marked. Commonly, one or more of the following lesions may be observed:

1. Eversion of punctum.
2. Obstruction or malformation of punctum.
3. Closure of punctum.
4. Inversion of punctum.

Any condition which alters either the shape or position of the inferior punctum is likely to cause stillicidium. For slight degrees of eversion the simple slitting up of the corresponding canaliculus is usually sufficient, care being taken to carry the cut down to the bottom of the vertical portion of the canal, that an opening may be made beneath the level of the secretion accumulating in the lacus lachrymarum. This simple procedure will do for slight degrees of eversion, such as we observe in the old subject, or in cases of chronic palpebral conjunctivitis, and all cases in which there is not such a loss of substance in the corresponding lid as to render a blepharoplastic operation necessary. It may be demanded also as one of the steps in a radical operation for eversion. The obstruction spoken of as forming one of the causes of stillicidium may be due to inflammatory or cicatricial changes in the edge of the lid, or in the lining of the canaliculus; but whatever its special cause, the only treatment indicated in the beginning is a free slitting of the canaliculus. If there be inflammatory changes in the canal lining they will require subsequent attention. We occasionally find obstruction due to a foreign body in the canaliculus. In two cases, I have removed from the inferior canal dacryolithes, which had produced stillicidium, and become by slow accretion of the size of a barley grain.

When the inferior punctum is wanting and stillicidium exists, we can usually find and open the corresponding canal by the following simple procedure:—Standing behind the patient, and holding his head in such a manner as to give it firm support, the lower lid should be slightly everted, and its edge made tense by being drawn in the direction of the temple. Then, with a pair of scissors of medium size, so made as to cut at their very points, you should snip the edge of the eyelid perpendicularly to its conjunctival border, to the depth of about a line and a half, cutting across the known course of the canaliculus. The canal once entered, the usual slit should be made throughout its entire length, and treated afterwards, to prevent closing, by running a probe daily between the raw edges until they have healed without uniting.

When the stillicidium is due to inversion, some operation to correct the in-turning tarsal edge is usually necessary as a preliminary step, and before any interference with the punctum. I would recommend that in all instances in which Bowman's operation, or slitting of the canaliculus is needed, the narrow straight knife of Weber be used, and so carried forward in the act of cutting as to make the line of incision through the back wall of the canal rather than upwards upon the tarsal edge; by so doing, your wound is not only hid from view, but placed in contact with the gathering lachrymal secretion.

We should not be contented with simply correcting the apparent deformity or malposition of the punctum in a case of stillicidium, but carefully explore the entire length of the canaliculus and nasal duct, to ascertain whether there is any deeper disease or coëxisting stricture. For a weeping eye may be due to a stricture deep in the nasal duct. This exploration should not be done, when it can be avoided, until the wound made in slitting the canaliculus has partly healed and become less tender.

I sometimes defer the deep exploration for a week or ten days, in the hope that Bowman's operation may suffice for a cure. To make this exploration, you need one of a set of Bowman's probes, or the probe known as Weber's, slightly bent, to pass readily beneath the overhanging brow, choosing in the case of the latter the smooth and not the notched one. Here, as in supposed stricture of the male urethra, make your first exploration with a full-sized probe or sound. By so doing, you ascertain at once the seat of stricture, and lessen the danger of producing a false passage.

A common seat of stricture is at the turn where the inferior canal empties into the lachrymal sac, and here, as in the strictures of the urethra, you may often overcome the obstacle by a delicate manipulation of your probe. As the thickening is almost invariably in the floor of the canal and of a nodular shape, you will usually pass it by: keeping the lid on the stretch, and depressing the handle of the instrument so as to press gently upwards towards the dome of the sac. If your probe does not readily enter, the ordinary strabismus hook will be found a useful explorer, and likely to pass where the former does not, and thus stretch the opening. After entering the sac and impinging against the opposite wall, you should carry the probe into a vertical position and gently pass onwards towards the nasal duct. As the extremity of your probe passes behind the edge of the maxillary bone, it approaches another common seat of stricture, and care is needed to prevent a false passage. Nothing is gained by violent pushing; a false passage may block the way to a cure.

From this point, and for somewhat more than half an inch, is the region of the most obstinate strictures that we encounter. In this region, known as the maxillary portion of the nasal duct, the mucous membrane is closely identified with the periosteum. Inflammatory processes agglutinate the two membranes, and not unfrequently lead to hyperplasia not only of the mucous membrane but of the periosteum of the bone.

If the stricture be permeable, I commonly pass a cylindrical laminaria probe, choosing a size that passes easily and yet fills the passage, and allow it to remain in until by swelling it has received an impress of the stricture. If, for instance, there is a single dense stricture, it will make a marked impression upon the probe, preventing it from swelling at a corresponding point, and thus furnishing not only a measure of the depth of the stricture in the nasal duct, but an indication of its firmness. If you propose to incise the stricture, you are thus enabled to pass your knife on without hesitation or uncertainty to its seat. Care should be taken in withdrawing the laminaria probe not to twist or bend it so as to break it off in the duct. Should such an accident occur, I would push the broken fragment onward into the nostril, or withdraw it upwards, by enlarging the Bowman's slit, so as to admit a pair of forceps into the tear sac. I have never had to resort to either expedient.

By the method indicated you have learned the seat and character of the stricture, and are now prepared to remove the real cause of the accumulation in the tear sac and backing up of secretion.

Some practitioners resort at once to a free incision of the stricture; others introduce a style made of leaden wire, fashioning its head so as to have it lie concealed in the open canaliculus, or bent over the edge of the lower lid, near the commissure, to be worn for weeks or months. Others again, by passing a full-sized probe every day or two, attempt to excite active congestion, and thus cause the thickened tissue to melt. I do not think that either of the three methods can be

so implicitly relied upon as to become exclusive. And here we must introduce another phase of disease of the sac and nasal duct before we can attempt to lay down rules for the treatment of stricture.

A neglected stillicidium and stricture leads sooner or later to progressive disease in the tear sac and nasal duct. A comparatively limited inflammation increases and spreads until the sac is stretched by accumulated fluid, its walls altered in shape and character, and a more or less acute dacryo-cystitis induced. Under these circumstances something more must be done than attempts to pass the stricture. Step by step, with efforts to dilate the stricture, must go measures to cure the catarrhal inflammation of the sac and duct.

Much harm has been unintentionally done by those who have advised persons affected with incipient tear-passage disease, not to have "the weeping eye meddled with." Such advice was not without justification in former days, when styles were in common use, but certainly very censurable in the present state of our knowledge.

Most of the uncurable cases now met with in practice are due to neglect, under the advice alluded to. Many a patient has gone for years, experiencing all the inconveniences and dangers of stillicidium, who might have been cured in three or four days, and with very little suffering. Many a patient, from the same cause, reaches a condition in which nothing but obliteration of the sac by surgical interference remains to be done.

No possible harm can result from the Bowman procedure when it is performed with becoming skill.

After noting the presence or absence of catarrhal inflammation of the sac and nasal duct, we should carefully explore the nares, and ascertain from the history whether there is naso-pharyngeal disease. Having ascertained these facts, we are then prepared to treat the case. I commonly begin by passing a full-sized probe, and washing out the sac and nasal duct afterwards with a solution of common salt, by means of a syringe, having a nozzle so small as to pass into or beyond the sac. In two or three days I repeat the procedure. If there is much muco-purulent discharge from the sac, I commonly wash out the sac with warm water, and then inject a solution of nitrate of silver, one or two grains to the ounce, every day or every other day, until the discharge loses its purulent character, when I repeat the probing. The moment I seem to gain anything by probing, I commonly intermit treatment to see if the new action induced will go on to a cure. I am convinced, from most careful observation, that in many cases the practitioner protracts his instrumental work in such a manner as to prevent a cure. A very few probings will tell us whether the case is one most likely to be cured by this method or the use of the knife.

Convinced of the propriety of the knife, I commonly employ for incising the stricture one resembling Weber's straight knife. To facilitate the procedure, I have had one made by Otto & Reynders somewhat longer in the shank than Weber's, and with about three-quarters of an inch of the shank untempered, so as to allow bending, to adapt the shape to a projecting brow. I like this knife better than Stilling's. It is smaller, and may be passed into a sac, and applied directly to a stricture without wounding other parts. (This and other instruments were exhibited to the members of the Academy.)

Stilling's knife, and all its modifications, cut not only where the stricture is, but where it is not, and I have after trial rejected them.

One free incision into a stricture is better than several, and I commonly cut into the projection, which causes me in passing the knife to deviate from the known course of the duct. This will be found sometimes on one wall and sometimes on another. I have said we must also examine the state of the nostrils. When there is any sign of naso-pharyngeal catarrh, I subject it to treatment by teaching the patient to wash out his nostrils daily with salt and water, and by doing it myself at my visits. I find it also beneficial to apply to the region of the nasal ducts in the nares an occasional application of sol. of nitrate of silver, thirty grains to the ounce—especially when the Schneiderian membrane is known to be thickened, as in catarrhal inflammation. In this matter, as in many emergencies of practice, I have been aided by the experience of my friend Dr. O. D. Pomeroy. As the object is to limit the application of the nitrate of silver solution to the needy part, a simple instrument recommended and used by the Doctor is of value. It consists of an ordinary Eustachian catheter, so bent at its objective end as to throw the contents where needed. By placing upon the manual end a soft rubber capsule, the Doctor has made a syringe which carries any desired quantity, from two or three minims of solution to ten or fifteen.

For free washing of the nares, I commonly employ the black rubber syringe, the bent nozzle of which is terminated by a flattened and perforated bulb, introducing the instrument behind the soft palate, and pressing the head of the patient forward at the moment of injecting, so as to insure a thorough irrigation of the nares. I prefer this syringe to any of the spray producers.

I have tried the method of treating nasal-duct stricture by lead styles, and cannot recommend it, except under the following conditions:—1st. When you have incised a stricture, a leaden style may be introduced and kept in place for a single day. 2d. In cases of diffuse inflammation of the nasal duct of a passive character, where the mucous membrane lining the duct is boggy, it may with advantage be left in for two or three days.

If allowed to remain in longer than this, it may induce or aggravate inflammatory changes in the mucous membrane, and produce new strictures or chronic ulcers.

I have had occasion to remove styles when others had introduced them, and found that they had by pressure and their irritating presence produced ulceration, thus seriously complicating the case. Moreover, they are not justified by the experience of those who in former times treated stricture of the male urethra by prolonged use of metallic catheters. Modern experience is conspicuously in favor of rapid treatment of strictures of mucous tubes by incision, rather than by slow dilatation. I would remark here, that the common practice of giving astringent slops to be applied externally as eye-washes, in cases of lachrymal disease, is not to be imitated.

Medicated collyria may do good in epiphora, where conjunctival irritation induces more lachrymation than can be disposed of, but not in the cases alluded to above.

It now remains to make a few practical suggestions in regard to acute inflammation and abscess of the lachrymal sac, and for the treatment of lachrymal fistula, and the operation for obliterating the lachrymal sac in incurable cases.

Our first view of a case may be when the tear sac is filled by accumulated inflammatory products, the superimposed connective tissue and skin widely inflamed, and all the symptoms of acute dacryo-cystitis present, complicated by an obstructive stricture, a

slight catarrhal inflammation having, by neglect, thus eventuated.

The common practice in such cases is either to make an error of diagnosis, and treat the case as incipient facial erysipelas, or, making a diagnosis, to order leeches over the sac and hot poultices. It is difficult to say which is the worse mistake. Either rests upon that sad tendency amongst us to generalize too hastily, not observing what we see, and the failure to analyse the objective and subjective symptoms in a given case. It being decided that the case is one of threatened or existing abscess of the sac, waste no time on leeches or poultices, they are both very bad; the first, and imperative indication, is to make an opening and let out the fluid. If this is not done, ulcerative perforation is almost sure to ensue, and with it such changes in the sac wall as to render the restoration of the integrity of the lachrymal passage almost impossible. If the matter is already showing itself as a yellow or bloody mark beneath the cuticle, your course is simple—cut through the skin at the most depending part of the fluctuating tumor. If you cannot see the matter through the skin, do not make this external opening—it is unnecessary, inelegant, and may lead to fistula, and should never be made if it can be avoided.

You have the choice of two other methods: either to slit up the lower canaliculus from punctum to sac, and thus evacuate the matter; or, if that be prevented by excessive swelling, to make an incision behind the commissure of the eyelids, between it and the caruncle, where you can reach the cavity of the sac with great ease, and still do nothing to embarrass you in the after-treatment of the case.

For this purpose I commonly take a small straight bistoury, or Beer's cataract knife, and stand behind the patient, so as to control his head. I open the lids as much as their swollen condition will allow, and then passing my knife so that its flat side grazes the eyeball, I pass it into the cavity of the tear sac, in the depression existing between the commissure of the lids and the caruncle. This point is rendered easier of access by the swelling of the surcharged sac, which causes the anterior wall of the same to bulge much in advance of its normal plane. You then may empty the sac without difficulty and avoid an external wound; nor does your procedure injure the canaliculi, or damage any appendage of the eye, or interfere with the after-treatment. Following the evacuation of matter, you recommend hot fomentations for an hour or so, and cool or cold water dressings, depending upon the grade of inflammation and the sensibilities of your patient. In old subjects the subsidence of the swelling of the connective tissue may be hastened by gentle pressure with dry lint and a single turn of flannel bandage.

In cases of lachrymal disease in young subjects, I would especially urge a very early slitting of the inferior canaliculus, as it will permit a free outflow of secretion from the sac towards the eye, diminishing the danger of ulcerative disease of the sac lining, and caries of bone. I always make this opening, even though I may not proceed farther with the treatment, considering it the best guarantee against abscess.

It will be necessary to give the young subject an anæsthetic for the operation, although commonly in the case of adults an anæsthetic is not needed in operations upon lachrymal diseases, except in the case of obliteration of sac.

The treatment of fistula-lachrymalis depends upon the state of the sac and nasal duct. If the fistula is due to a neglected but permeable stricture, you treat the stricture *secundum artem*, expecting when it is cured to see the fistula heal. If due to impassable, and therefore incurable strictures, or complicated by chronic suppurative inflammation and extensive ulceration of the sac, you must resort to the procedure remaining for the close of our remarks, viz., destruction of the lachrymal sac.

To destroy the sac, you must gain access to its cavity, and apply either the actual or potential cautery throughout its extent, and as far down the nasal duct as *possible*. Commonly, for this purpose, a free incision is made externally, extending from beneath the brow downward into the lachrymal sac, cutting the tendon of the tensor tarsi muscle, on over the maxillary edge of the orbit—a cut about an inch in length, attended by a good deal of bleeding, and usually leaving a more or less ugly scar—a scar always greater when the destruction of the sac is most complete.

I prefer, and have for years employed, the following procedure: With a Weber's knife I slit up both canaliculi from the puncta to the lachrymal sac. I then cut any sac wall that may intervene between the two canals. This carries me behind the tendon of the tensor tarsi; leaving it intact, I, with a strong small scalpel, make a sweeping cut upwards and downwards, so as to split the wall of the sac that looks towards the eye, until I can introduce a retractor into the cavity of the sac. When I can do so, I draw the anterior wall of the sac with the overlying palpebral commissure towards the side of the nose, and thus reveal the sac cavity. I then apply either nitric acid or potassa fusa to the sac lining and the canaliculi, until I feel sure that no living mucous lining is left. I then wash out carefully, allow the anterior sac wall and palpebral commissure to fall back into place, and the sloughing and inflammatory processes destroy both sac and canaliculi; nobody could tell from any external or conspicuous signs that an operation for the destruction of the sac had been done.

I think this method might be rendered still more acceptable by the use of some one of the elegant galvano-cauteries. I have frequently done this operation and never had any ugly inflammation or unpleasant result. It is a much more simple procedure than it may seem to be. When, therefore, we have a case of impermeable stricture or incurable inflammation of the lachrymal sac or nasal duct, especially when there is ulceration or extensive disorganization of the parts forming the passage, the sooner the sac is destroyed the better.

The presence of caries of the bone does not preclude the operation, but only retards the recovery.

In some instances of chronic lachrymal disease, we may have to resort to general medication suited to the diathesis; but, as a rule, the treatment is mostly local, with such attention to hygienic measures as will diminish the chances of annoying catarrhal complication.

I would, in closing, make the remark that some fail to have satisfactory results in the treatment of lachrymal diseases because they are too impatient. They are unwilling apparently to spend the time necessary to acquire dexterity in the use of instruments. They fall into the habit of rigidly following a favorite method, instead of studying the delicate shades of difference in cases, so as to adapt suitable modifications of treatment. They encounter obstinate cases, incurable cases, obstructive patients with impermeable mental or moral strictures, and are too ready to reject well-tried plans of treatment for deceptive novelties, or to adhere to useless and exploded practices.

Some among us cling like ivy to old ruins, and never rise above the level of antiquated notions. They go on the same old paths and congratulate themselves that their conservatism is the better wisdom, because,

forsooth, they now and then find progressive men looming up upon the horizon, as though they were laying a course to return to their standpoint.

Original Communications.

ANTERO-POSTERIOR SYMMETRY, WITH SPECIAL REFERENCE TO THE MUSCLES OF THE LIMBS.

By ELLIOTT COUES, A.M., M.D., Ph.D.,.

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Article VI.

ANTIBRACHIAL MUSCLES PROPER—MUSCLES OF FOREARM AND LEG, ACTING UPON CARPO-METACARPUS AND TARSO-METATARSUS.

At the shoulder we saw muscles multiplied and diversified in relation to the perfect mobility of that joint, as compared with those conferring the greater stability at the hip. On the arm, we found fewer muscles, for simple flexion and extension at the elbow, while on the thigh more were required for the great strength exerted upon the knee-joint. At the distal extremity of either limb, where motion must be free and varied, muscles again increase in number and complexity. In the fore, the added power of motion is more diffuse; in the hind, it is more concentrated. Various and delicate muscular functions render the hand "fit instrument of the soul" of the animal

"—— quod dominari in cætera posset;"

singular disposition and action of the muscles of the foot only further obey the creative mandate that the same poet has signalized—

"Os hominl sublime dedit, cœlumque tueri
Jussit" . . . . OVID.

Man is the only truly bimanous and biped mammal; all others are pedimanous—quadrumanous—or quadrupedal—and the four extremities are used in progression.* We should infer, therefore, special modifications in either extremity, tending to obscure morphology; as is found to be the case. In the forearm and hand, there are more muscles than in the other limb, providing, first, for pronation and supination, second, for free and diverse movements of the digits. In the leg and foot, muscles are condensed, and have special lines of traction for better support of the body upright upon its narrow pedestals. But even in the obscurity that this embarrassment of riches brings, we may be able to point out more, and more striking, correspondences than would at first be supposed to exist.

As has been ably exposed,† the radio-ulnar articulation is a teleological interpolation, occurring in comparatively few animals; and all the pure accessories of the pronation and supination that this joint allows are to be looked upon in the same light. A singular corroboration of this view is also presented (*ibid.*, p. 301), taken from the disposition of the muscles themselves, as regards the sides of the limb they occupy; but this need not be given here. The *pronator radii teres* and the *supinator brevis* are the purest adaptive modifications among the muscles of the forearm. These have no posterior correlatives; at least, none have been discovered. The same may be said of the *pronator radii quadratus*, as far as the human subject is concerned.* The muscle called "*supinator longus*" is usually held to belong to the same group, from its function, and especially from its insertion into the styloid process of the radius. But this office is not well marked; and, for the matter of that, the biceps brachialis is a more powerful "supinator" than both of the muscles so-named together. The *s. longus* is really a muscle of the carpus, not of the forearm alone; in man, and in the animals nearest to him, its tendon is arrested on its way to the wrist, to which it normally goes, to be inserted into a carpal bone, or the base of a metacarpal, on the radial side. I therefore conceive it to be really a radial wrist-"flexor" (*i.e.*, *extensor* †) belonging to the superficial set of the *anterior* ‡ brachial region; regarded in this light, its posterior correlative is found. This point will be taken up again.

Before taking up the special flexors and extensors of the wrist and ankle, we may dispose of one obvious homotypy; I refer to that between the *palmaris longus* and the *plantaris*. These two muscles seem to vary inversely in point of size, &c., throughout the mammalian scale. In some pedimanous animals, they exhibit similar proportions in both limbs; then they lie on corresponding sides of the limbs (front of supine forearm and back of leg), in nearly the same relative position, and pass over front of wrist, and heel, respectively, to expand into, respectively, palmar and plantar fascia, of which they are tensors, besides being "flexors" (*extensors*) of the segments they reach. But in the horse, *e.g.*, where there is no palmaris, the plantaris is singularly developed, and simulates a flexor perforatus of the single functional digit.§ In man, again, where the palmaris is highly developed, the plantaris dwindles to an insignificant muscle, with a long delicate tendon, which, when it does not abort, goes to the calcaneal tuberosity, as a sort of accessory *tendo Achillis*.

Remembering how highly specialized man's hand and foot are; and that any multidigitate animal must have muscles, or at least tendons, superadded to those of beasts with only one functional digit, we may confidently look among the latter to find the simplest conditions of the problem, and learn by comparison what are the essential, and what the incidental, muscles. In the fore limb of a solidungulate, as the horse, four carpo-metacarpal muscles lie upon the forearm; these represent essential muscles, preserved with great constancy both in higher and lower animals. One at least of these four seems to include in itself certain muscles that in other animals are differentiated into distinct ones, and variously modified. These four exist in man; where they are known as the two (ulnar and radial) wrist-"flexors" (*extensors*), and the three (one

* With the apparent exception of certain saltatorial marsupials; but even the kangaroo is not strictly "biped," for the great tail gives tripodal support and locomotion.

† WILDER, op. cit., p. 28.

* But this muscle occurs in man in rather exceptional condition. In some other animals, it is a true interosseous muscle, extending between the radius and ulna nearly all or the whole way from wrist to elbow. In certain pedimanous beasts, especially those with movements at the ankle analogous to if not identical with pronation and supination, as, *e.g.*, the opossum, there is a large "interrosseus cruris" running obliquely between the tibia and fibula from ankle to knee; fulfilling in a measure the office of, and being homotypical with, the pronator radii quadratus.

† For convenience, and to lessen chances of perplexity, I shall give both names of the wrist muscles; the old recognized names in roman between quotation marks; the new proper names italicized in parentheses; thus—"extensor" (*flexor*) *carpi radialis longior*, &c.

‡ Although it is variously described as belonging to the "superficial posterior group" (Wilson), and the "radial group" (Gray). The latter is more nearly correct; but most of the "groups" and "regions" of the descriptive anthropotomist are irrational.

§ In this animal the plantaris "runs over the extremity of the os calcis, where it is enclosed in a sheath; passing on from this point, it divides, to be inserted upon each side of the posterior surface of the proximal phalanx towards its inferior extremity, here giving passage between its two insertions to the tendon of the long flexor of the toe; . . thus seeming to perform the functions both of the 'plantaris' and of the short flexor of the toes."—OWEN, *C. A. and P. Vert.*, iii, p. 37.

ulnar, two radial) wrist-"extensors" (*flexors*). With the former I consider the supinator longus, making six in all, for the correlatives of which we are to search. It will be observed, that the ulnar flexor and extensor are both single, and the radial double; but that the essential idea is of a flexing and an extending system on both ulnar and radial sides of the limb. I commence with the ulnar.

The antitype of the "extensor" (*flexor*) *carpi ulnaris* is the *tibialis anticus*. This has been long recognized and admitted, as evidenced by a synonym of the latter—*flexor tarsi tibialis*. They have the same action—flexion of their respective segments; they occupy the same relative position, arising from outer condyles, lying along homologous bones (ulna and tibia) and proceeding to the corresponding (inner) sides of hand and foot, respectively, to be inserted into bases of corresponding bones—fifth metacarpal and first metatarsal.

The antitypy between the "flexor" (*extensor*) *carpi ulnaris* and the *tibialis posticus* is almost as plain. The latter, indeed, used to be called "extensor tarsi tibialis." The objections, of the difference in the special origins of the two, and more particularly, of the fact that one is superficial and the other deep-seated, have less weight than the arguments in favor of the view here taken. In spite of the fibular origin of part of the tibialis posticus, it is essentially a tibial muscle, as the other is an ulnar one. Below, it gains the same relative position on the inner aspect of the ankle, that the other occupies on the wrist; passes behind the inner malleolus in front of other tendons, and lies along the inner margin of the metatarse. The tendons of the two are inserted in strictly homotypic positions upon the carpus and tarsus; and may be prolonged, in either case, to the corresponding meta-carpals and -tarsals. Finally, this identification seems required upon the principle of exclusion: no other muscle being found to correspond to anything like the same degree.*

Turning now to the radial side of the front of the wrist, we find the tendons of two muscles. One of these crosses the wrist to be inserted into the palmar aspect of the base of the index metacarpal; it is that of the "flexor" (*extensor*) *carpi radialis*. The other, in man, is arrested at the end of the radius; but under other circumstances acts upon the wrist. We have only to conceive the tendon of the supinator longus prolonged, as it really is in other animals, in front of the styloid process, to have another perfect radial "flexor" (*extensor*) *carpi*. Both these muscles, it will be observed, belong to the superficial group of the anterior brachial region; both proceed to the radial side of the front of the wrist; one arises from the internal condyle of the humerus, and the other from the external. Keeping these essential conditions in view, we look for the correlatives of these muscles in the components of the similarly disposed muscle of the calf that forms the tendo Achillis.

That this is a compound muscle, no one will question. The *soleus* and *gastrocnemii* were evidently morphological strangers, until brought together and fused in a common tendon. A further dissection of this composite muscle seems required; for in all probability the two gastrocnemii are morphological integers. It is to be remembered, that the consolidated calf-muscle of man is found in its most highly specialized phase; for here the two extremities are most widely differentiated. To see it in its typical condition, we naturally turn to some animal whose foot is most like its hand. A strictly pedimanous one furnishes the desired subject. In the opossum, I found the following condition: The soleus is absent; or at least so obscure that I did not recognize it. The two gastrocnemii are entirely distinct from origin to insertion. The *gast. externus* arises from the outer condyle of the femur and head of the fibula, and passes to be inserted by a long tendon into the *inner* side of the calcaneal tuberosity. The *gast, internus* arises from the inner condyle; its tendon passes down and crosses the other to be inserted into the *outer* side of the calcaneal tuberosity. Thus, including the tendon of the highly developed plantaris, there are *three* separate and distinct "Achillean" tendons, no one of which comes from a soleus. If this be the morphological condition of the calf-muscles, we are justified in concluding,—that the soleus is a teleological interpolation, having no correlative in the fore-limb; that the gastrocnemius internus is the correlative of the "flexor" (*extensor*) carpi radialis; and that the gastrocnemius externus is the correlative of the supinator longus.

These identifications may appear less forced the more closely they are scrutinized. The muscles in question of the forearm are strong "flexors" (*extensors*) of the wrist: those of the calf are powerful extensors of the ankle. The former both go to the outer (radial) side of the wrist; the latter to the os calcis, which is one of the outer (fibular) tarsal bones. Moreover, upon this hypothesis is explained the seeming anomaly, that there should be upon the forearm two radial wrist-"flexors" (*extensors*) arising from opposite humeral condyles; all others, whether flexors or extensors, arising together from the corresponding condyle.* If this determination be held inadmissible, it is difficult to see how the several muscles in question can be disposed of. There is nothing (outside the calf-muscle) to represent the "flexor" (*extensor*) carpi radialis. Wilder's reference to it of the *peroneus longus* is probably not to be admitted; since the latter is wholly external—condylar and fibular, and there is no evidence that such transfer sideways of the origin and position of homotypic muscles as this identification implies has taken place. The supinator longus would have either to be restricted to the forearm alone, where morphologically it does not appear to belong, and where it does not remain in many animals, or else be accepted as a dismemberment from the radial wrist-"extensor" (*flexor*) set, and so referable to one of the two longer peronei. Moreover, upon such disposition of these forearm muscles as this, the great muscles of the calf composing the tendo Achillis would be denied anterior correlatives; for reference of

* Owen holds the *gastrocnemius* to be the homotype of the "fl." c. uln., but apparently largely upon the unproven assumption that the calcaneal tuberosity represents the os pisiforme; that both these bones form powerful levers for the action of the two muscles, from both of which arise bicipital, &c. But the os pisiforme is the inner bone of the wrist, the os calcis one of the outer bones of the tarsus; and the gastrocnemius may be, as I hold below, better accounted for in another way.

The seeker after polar antitypies can do nothing with Owen's "serial homologies" of the muscles of the limbs. Thus he says (op. cit. i., p. 221), "when the leg is brought forward, widening the angle between it and the thigh, and when the fore-arm is brought forward, contracting the angle between it and the arm, the motions are the same, or homologous in both limbs;" but I hold, that they are not the same. This view obliges him to see correspondent muscles upon the *same* instead of opposite sides of the limbs: thus (l. c.) he says, "the biceps flexor cubiti, with the brachialis anticus, is the homotype of the triceps extensor cruris," &c.; which assuredly it is not, in any other than the serial mode of viewing the limbs. I should add, that, in taking, as he does, the fore-arm *prone*, and so in a morphologically false position, his "back of the fore-arm" is turned to the front of the animal; and in consequence, his "serial" homologies of forearm muscles, collectively considered, correspond to my antitypies; though, in homologizing individual muscles, he reaches conclusions different from most of those to which I have been brought.

* Referring to Wilson, p. 249, fig. 118; or to Gray, p. 306, fig. 172, one cannot fail to be struck by the resemblance of the fleshy parts of these two muscles to the heads of the gastrocnemii, or to note how the tendons converge to the radial side of the wrist, just as the gastrocnemii are blended in a tendon that passes to a fibular bone of the tarsus.

the compound gastrocnemius to the "flexor" (*extensor*) carpi ulnaris is impossible upon the hypothesis that forms the basis of reasoning on polar antitypy.

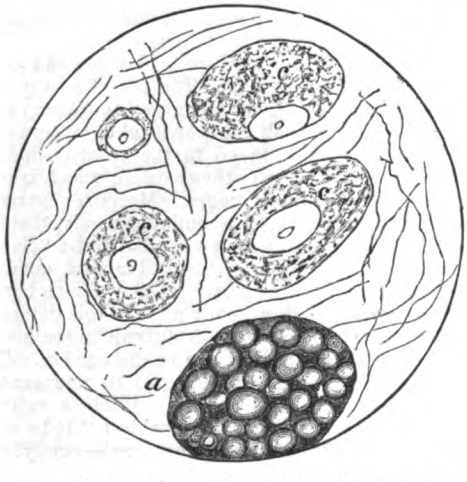
Examination of the remaining muscles of this group (rad. longior et brevior and the two peronei) is unavoidably deferred.

Reports of Hospitals.

KINGS COUNTY HOSPITAL.

MYXOMA OF THE PAROTID.

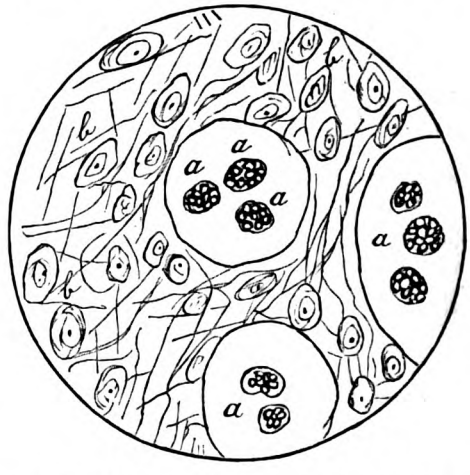
CATH. ———, aged about fifty-five years, has been afflicted for fourteen years with a morbid growth arising from the space between the ramus of the right lower jaw and the mastoid process. Eleven years ago a tumor was removed from the same locality, after three years' growth, by Dr. Turner, then resident physician of the hospital. Its nature was not determined, but its source was pronounced to be the parotid gland. Another tumor soon appeared in the same locality, and as a circumscribed induration was also noticed in one of the mammary glands, Dr. Turner pronounced the growth malignant, and advised that it should not be tampered with. It steadily but slowly increased in size until it reached five inches in diameter, encroaching on the cheek, lifting the ear on its surface, the skin covering it being full of plainly visible blood-vessels, and of a diffused red color, from more minute injection. Its size and painfulness became at last so aggravating that the patient clamored for its removal. Dr. Hutchison's advice was sought in order to settle conflicting opinions



respecting the propriety of its extirpation, and from the mobility and apparent independence of the morbid mass, he pronounced decidedly for an operation.

The patient having been etherized, Dr. Stiles dissected up a semicircular flap of integument, and removed a semilunar portion, so as to bring the cicatrix behind the jaw instead of on the cheek. Efforts to isolate the growth with the fingers and handle of the scalpel tore open a capsule which enclosed a cystic tumor of five inches in diameter, from which the latter was removed without difficulty. Several blood-vessels were twisted to arrest hemorrhage, and but one was tied. The wound soon healed, and the patient is rapidly regaining her strength.

On cutting open the mass it was found to be a cystic sarcoma or myxoma of Virchow. (See Morbid Growths, Art. I.) The mass, of the consistence of boiled white of egg, was filled with cysts of the size of a millet-seed, one only being of the capacity of two fluid drachms. The cysts were filled with an albuminous or mucous



liquid, transparent, of a straw color, which under the microscope was seen to contain a few compound granular bodies, (a) like those of inflammatory softening of the brain. It coagulated in alcohol in delicate membranous flakes as it exuded from the contracting mass. The stroma was of the kind of white fibrous tissue found in the umbilical cord and the vitreous humor of the eye, but here intermingled with oval, nucleated, and nucleolated cells. The cells were of very various size, few larger, however, than the one-thousandth of an inch, the nucleus being of the uniform size of the one-three-thousandth of an inch; the material of the cells was finely granular, delicate, and translucent; that of the nuclei, free from granulations and transparent. The nucleoli were not bright and variable like fatty granulations, but constant, uniform, and like those said to be distinctive of cancer.

As there are malignant as well as innocent myxomas, the prognosis in the present instance must be guarded, although the long duration of the growth, with absence of constitutional infection, is in the patient's favor.

As an indication of the source of the tumor, it is proper to note that large branches of the seventh pair of nerves, pes anserina, lay on the floor of the cavity from which the tumor was removed.

A REMEDY FOR UTERINE FIBROID TUMORS.—A favorite remedy with Dr. Atlee in these cases is the muriate of ammonia in doses of 10 grs., three times daily. Dr. A. R. Jackson can bear testimony to its apparent efficacy in one case, in which he used it in conjunction with the external use of the ungt. iodini comp. This treatment was persevered in for more than a year.—*Chicago Med. Journal.*

CANCER OF UTERUS.—Professor Fordyce Barker, of New York, advocates in those cases where there is extreme sensitiveness of the ulcerated surface, pessaries of iodoform.

℞. Iodoform.....gr. x.
Butyri cacao.....3 j.
Glycerine.....gtt. v. M.

One pessary. This also serves to correct fetor. A drachm of iodoform to the ounce of lard is also a beneficial ointment.

THE MEDICAL RECORD.

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New York, October 15, 1870.

PRISONS AS REFORMATORY SCHOOLS.

THE report of the Inspectors of our State Prisons for 1870 shows these institutions to be in a reasonably flourishing condition. A great deal of necessary space is given to the financial exhibit of the managers, with the usual array of carefully-prepared statistics, which, in themselves of much importance, are nevertheless very dry reading. The physician and philanthropist, however, can gather from the documents in question much that is suggestive in reference to necessary reformatory measures. These latter are after all the main objects for which our prisons are instituted, and in proportion as they are attained by an intelligent and forbearing administration will the best good of society be subserved. The punishment of a State prison should consist more in the disgrace of being a convict, in the acknowledged necessity under which society has been placed towards the criminal to confine him, than for the performance of any special penalties afterwards. The latter are the proper preventives of crimes, and as such should be properly enforced by the strictest discipline; but beyond this every effort should be made to reform the criminal so that he may, on the completion of his sentence, be in a fair way to become a decent and law-abiding citizen. It is gratifying to note that both of the conditions are being met, and that experience has shown that the greatest good to the convict and to society is thus accomplished. Much harm has heretofore been done by a mistaken idea of what the discipline of a prison should be, and the tendency has always been to support it by punishments that have been unreasonably severe. The principle seems to have been more to avenge than to correct and reform, and the consequence has been to develop all the worst qualities of resistance in those upon whom such punishments have been inflicted. It has lately been shown that, with a few general exceptions, the best discipline is maintained by the fewest punishments, provided these latter are inflicted in absolute accordance with rules of the institution. Here is an explicit statement in support of the above from Dr. Arthur S. Wolff, the Physician in charge of the Clinton Prison:—

"Since the abolition of the shower bath by the legislative action of the last session, the punishments have been reduced at least sixty per cent. (!) Infractions of discipline are comparatively rare now. By order of the agent and wardens, a milder punishment has been introduced. Every act of disobedience or infraction of discipline is thoroughly investigated; the punishment is carefully considered and intelligently administered by the agent and principal keeper with a wise and honorable severity, but with swift and vigorous certainty. This generous sense of discipline, at once wise and humane, but firmly and impartially administered, never based upon meanness or fear, for the sole and determined purpose to curb the obstinate stubborn, and insubordinate, has had the most beneficial effect upon the convicts. They know what they have to expect if they commit a breach of the few and well-defined rules of the prison. He who knows anything of the peculiarities of the convict, is aware that it is not the remote chance of indiscriminate punishment that deters him from breaking or disobeying the prison discipline, but the more constant disagreement of vexatious and irritating rules. It is a matter of no small congratulation to the humanitarian and the philanthropist to know that for some time past I have observed the absence of that peculiar doggedness manifested in the convict, and which makes him so stubborn, and involves, always, more the spirit of resistance than the spirit of assault."

The experience of prison officials thoroughly accords with the above, and the question has been since the time of Howard, How much more can the severity of the usual punishments be curtailed consistent with the steadiness of a calm, rigorous, and resolute discipline? We have been answering this question in several practical ways during the past few years, but in none more directly and efficiently than by the abolition of the barbarous shower bath. While mental punishment is, theoretically speaking, to be considered the most salutary in its effects, we are nevertheless convinced that physical chastisement cannot be altogether dispensed with. There are certain natures and dispositions to which only physical suffering or discomfort can make any corrective appeal. To make these punishments effective the physician and humanitarian have as much and more to do than the prison keeper. The physical punishments, in order to subserve the proper purposes of discipline, must not, in the end, be detrimental to the health of the culprit. They should be severe enough to cause a dread of their infliction; at the same time their character should be such that in case of stubbornness they could be prolonged indefinitely. Nothing destroys discipline so much as being compelled, on account of an ill-advised method of punishment, to relax it in consequence of the physical intolerance of the subject without having attained its

primary object. It is, of course, exceedingly hard to inculcate the idea of dread for a punishment which in itself shall be mild; but the capability of its long continuance will in the end more than reconcile the two. Many of the mild chastisements employed in our prisons answer these requirements, while there are others which do not, and should be banished from the list. One of these latter is the dark cell in which incorrigible and refractory patients are usually confined. Although no corporeal punishment is inflicted, the patient is placed in a very dangerous situation in regard to sanitary requirements, and the longer he is kept there the worse are the conditions which surround him. The ventilation is next to nothing; and the air, aside from the ordinary contamination by breathing, is made almost poisonous by the admixture of the effluvia of the buckets into which the excrements are passed. In spite of the care that is exercised by the medical officers to have these apartments properly cleansed and policed, they are always unsafe in a sanitary point of view. The result is that almost always in cases where the executive officer deems it proper to confine a culprit for any considerable period, the physician has to release him to prevent disease and perhaps permanent ill-health. There are many other punishments which could take the place of this, and in being less dangerous to health, the better serve the purposes of firm and uncompromising discipline. The pernicious shower bath has been abolished—let the dark cell follow it into the past.

The crowded condition of our State institutions is another element which operates in a very unfavorable manner against reformatory measures, physical and moral. It not only helps to increase mortality and give a grave type to epidemics, but the compulsory association of criminals of different grades, which that want of room necessitates, is in the highest degree detrimental to the youthful portion of the population not yet hardened to vice. The proper separation of the different classes must, however, be a work of time; and if patience shall have done its perfect work and the end is accomplished, we shall take an immense stride towards reforming the criminal, in leading him by the shortest road to virtue.

Another evil in prison management, and which with a little care and forethought might be remedied, is the indiscriminate distribution of clothes. The changes, according to Dr. Wolff, are made:—"After being but imperfectly washed, because the officer having charge of that department cannot, with the best intention on his part, insure them from being saturated with foul and unwholesome emanations; in that state they are distributed without reference to the previous wearer. They may be clean as circumstances may admit, still they may have been worn by men who are afflicted with all kinds of transmittable skin diseases. They may still be impregnated with effete matter strikingly manifest to the senses." Bad as this is in a sanitary point of view, it is still worse in its moral aspect. On this point Dr. Wolff truthfully says: "Of all the paraphernalia of prison life, the striped apparel, the narrow cell, the labor, its crowded lock step, its stern discipline, the compulsion of wearing the shirt of another still reeking with the foul acid exhalations to the naked skin, *surpasses them all.*" We imagine nothing more calculated to prejudice the minds of the convicts against the good intentions of their keepers than this. There are many other points which might be discussed in a general way regarding prison reform, but as they hardly fall within the scope of sanitary reforms, we leave them for the moralist and political economist.

Reports of Societies.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

STATED MEETING, SEPTEMBER 5TH, 1870.

REPORT OF THE COMMITTEE ON INTELLIGENCE, BY BRADFORD S. THOMPSON, M.D., SEC'Y OF THE COMMITTEE.

MR. PRESIDENT—The following items are respectfully submitted:—

C. Handfield Jones, M.D., F.R.S., Physician to St. Mary's Hospital, London (*British Med. Journal*), reports an interesting case of "Influenza, with persistent headache and jarring sensation," relieved by the administration of bromide of potassium and a sternutatory. The patient, a male, æt. 29, millboard maker, had been ill between two and three months, and was treated by a medical man, who told him he had water-congestion on the brain, and blistered his neck and occiput. He was ordered to take two grains of quinine three times daily, and to use common snuff five times a day. The following day the subjoined *sternutatory*, recommended by Dr. Laycock, was substituted for the common stuff:—℞. Pulv. hellebori alb., gr. 40, pulv. cinchon. ʒ ss; and thirty grains of bromide of potassium and an ounce of camphor mixture were given every three hours. On the third day, his head was much relieved; the powder made him sneeze effectually, and some blood was expelled. On the seventh, ringing in the ear was gradually dying away. The headache was much less; what pain there was, was frontal. He was made an out-patient, and was last seen on the 15th, when he reported that he was almost free from headache. Much benefit was attributed to the hellebore snuff. The bromide had been continued in twenty-grain doses three times a day. Dr. Jones fancies that too many are inclined to look upon influenza as essentially a bronchial catarrh; but he agrees with Graves and Blakiston that its cause acts in a special manner on the nervous system, and that it is no mere inflammation. The peculiar prostration, the headache, and other nervous symptoms, which are not unfrequent, differentiate it markedly, besides the suddenness of invasion, which is often very remarkable.

As to the sternutatory, this must be regarded as a form of counter-irritation; having this advantage, however, that it is capable of repeated application within a short time, and that it provokes repeated diversions of blood, with mucous exudation. Its good effect in this patient depended, he thinks, on its producing reflex stimulation of the vaso-motor nerves of the cerebral arteries, and lessening the blood flow, which was probably excessive for the *weakened* tissue.

Syphilitic Disease Affecting the Nervous System.—The editor of the *Dublin Quarterly Journal of Medical Science* writes as follows in regard to Thomas Reade, M.B., who was the first to prove that epilepsy, mania, hemiplegia, paraplegia, amaurosis, hebetude of intellect, loss of memory, cranial neuralgia, suicidal propensity, paralysis of sphincters—all may be the offspring of the one disturbing cause—syphilis affecting the nervous centres:—It is very generally known that Dr. Thos. Reade, of Belfast, published his first paper on syphilitic diseases of the nervous system in the pages of this journal in the year 1852, Dr. Todd, of London, having drawn attention to the same subject in 1851. All, however, are not aware of the fact that Dr. Reade's paper was offered for publication in the year 1847. Thus Dr. Reade was really and literally the first who recognized the existence of syphilitic disease of the nervous system; and his labors since this time in further elucidation of the same are well known, and should be freely acknowledged.

Dr. Reade (*British Med. Journal*), in explanation, states that he offered his first series of cases in 1847 to the editor of the *Dublin Quarterly*. He, however, refused the paper, and it lay with him until accident introduced him to Dr. Neligan, the next editor of the same journal, who asked him if he could give any contribution. The rejected paper was named, which he gladly accepted, and published in February, 1852. By Dr. Neligan's desire, a second series of six additional cases was published in 1860.

The knowledge of the subject in 1867 had acquired such a full recognition in England and on the Continent that he collected his series of papers and additional cases—in all twelve—and published them in a volume.

In conclusion, the claim of priority or precedence bears no weight on his mind. The acceptance and reference, by *modern writers* on syphilis, of his cases, as faithful and instructive types of syphilitic disease dominating the nervous system, could alone be to him a justification for publishing a retrospect.

AN IRON COTTAGE HOSPITAL.

Dr. W. Jones, of Aspatria, England, at the late meeting of the British Medical Association, held at Newcastle-upon-Tyne, gave a description, and exhibited a model of a moveable metal cottage hospital, which he had designed. The building, as at present arranged, consists of a central square tower, the length of each of the sides being 16 feet. The tower is 33 feet in height (this being the thirty-third year of Her Majesty Queen Victoria's reign), including three stories with a spiral ascending staircase in the centre. Such a building is capable of being readily erected or removed at pleasure; and when any locality may be visited by an epidemic disease, so that it would be next to impossible to convey patients to a hospital at a distance, the operation may be reversed by conveying a hospital to the patients.

We would also remark, that on each of the three sides of the tower is a ward of the same dimensions as the base of the tower. Each ward is 12 feet in height from the ground floor to the eaves, and 24 feet to the roof-tree; and is calculated to contain three beds. The number of cubic feet of air allotted to each patient is 1536 feet. Attached to each of the wards on the outside is a corridor, entered from the end of the ward, for the use of patients during convalescence and during unfavorable weather; it may also be devoted to closet or bath arrangements. The use of the earth-closet has been suggested.

Form of Neuralgia of the Jaw Bones, Hitherto Undescribed.—Prof. S. D. Gross, M.D., Philadelphia (*Am. Jour. Med. Sciences*), describes a form of neuralgia of the jaw bones, which, so far as his information extends, has not hitherto been described. Its seat is in the remnants of the alveolar process of edentulous persons, or in the alveolar structure, and in the overlying gum, and is met with chiefly, if not exclusively, in elderly subjects. It is also more common in the upper than in the lower jaw. The part affected is usually very small, often not exceeding a few lines in extent. The soft tissues around do not seem to suffer, at least not in the same degree, as is so frequently the case in the more ordinary forms of neuralgia of the jaws and face. On the contrary, the morbid action is generally limited to the osseous structure. In rare instances there may possibly be some involvement of the gum, which is nearly always exceedingly hard and dense, grating more or less under the knife, and adhering with extraordinary firmness to the atrophied alveolar process beneath.

The pain is generally paroxysmal, coming on in fits and starts, very much as in ordinary neuralgia, the slightest causes being sufficient to provoke it. Pressure generally relieves rather than aggravates it.

The pathology of the affection seems to be compression of the minute nerves distributed through the wasted alveolar process, dependent upon the encroachment of osseous matter upon the walls of the canals in which they are naturally inclosed. In the natural state the nervous current passes along without any hindrance, but in this condition of the canals in question its transmission is interrupted, and more or less pain, known as neuralgic, is the consequence.

The disease usually comes on gradually, and proceeds from bad to worse, until, in many cases, the suffering is rendered nearly intolerable.

Prof. Gross adds five cases of this affection, with their treatment, and believes that the only effectual remedy is excision of the affected alveolar process. No particular attention need be bestowed upon the after-treatment. A mild course of chalybeate tonics may be required when the patient is anæmic, or affected with flatulence and indigestion. He also exhibits a pair of forceps made for the removal of the alveolar process.

Coincidence of Certain Nervous Symptoms with the Presence of an Excess of Urea in the Urine.—F. A. Burrall, M. D., New York City (*Am. Jour. Med. Sciences*), publishes an instructive essay on this subject, containing observations which have not been previously reported in America. In the three published cases of general malaise, vertigo, and acidity, complicated with a peculiar variety of nervous symptoms, the patients showed a marked *excess of nitrate of urea*.* The advantage of studies like that which compose this paper is, that they tend towards increased knowledge of the essential nature of disease, and remove our practice farther from empiricism. The necessity is often felt in treatment of keeping the diathesis of the patient in view without looking for a particular set of symptoms, which only appear when the diathesis is fully developed. The test for nitrate of urea is one which may be employed by any general practitioner, and is valuable in differential diagnosis as aiding us in distinguishing between nervous symptoms resulting from anæmia and those which accompany an excess of urea in the urine.

This study also suggests the necessity of examining the urine in cases of vertigo, to see if this symptom may not be one of the many in which uric acid or its congeners may manifest itself. It would also be well to

* While alluding to this class of cases in the presence of Dr. H. C. Farnham, of this city, this gentleman showed him a copious deposit of nitrate of urea from a patient laboring under intense nervous depression. Thus corroborating his experiments.

see how far sleeplessness may, in some cases, depend upon a similar cause. Dr. B. has found the spiculated crystals of urate of soda in the urine of puerperal mania.

We may, besides, be led to inquire as to how far those alkaline remedies, such as muriate of ammonia, valerianate of ammonia, and bromide of potassium, often so efficient in nervous disorders, owe their effects to the combination, with a nervine, of one of the alkalies which combine with or dissolve uric acid.

SPECIAL MEETING, SEPTEMBER 26TH, 1870.

DR. JOHN R. VAN KLEEK in the Chair.

INFLUENCE OF MUSCULAR EXERCISE ON THE URINE.

DR. AUSTIN FLINT, JR., read a paper entitled, *The Influence of Excessive and Prolonged Muscular Exercise upon the Elimination of Effete Matters by the Kidneys; based on an Analysis of the Urine passed by Mr. Weston while walking One Hundred Miles in Twenty-one Hours and Thirty-nine Minutes.*

When Mr. Edward P. Weston was performing his great pedestrian feat, at the Skating Rink in this city, last May, Dr. Flint visited the rink near the close of the hundred-mile walk. He learned that, by chance, all the urine passed during the walk had been collected in a single vessel. This was placed at his disposal and subjected to a careful quantitative analysis. The observation being entirely unpremeditated, certain elements of scientific completeness were lacking, such as the exact amount of food and drink consumed, etc.; and the specimen of normal urine for comparison was necessarily obtained, not before the walk, but some three months later, when the conditions seemed perfectly satisfactory.

It was evident that an accurate comparison of the urine passed during such an enormous strain upon the muscular and nervous systems, under known conditions of diet, etc., with the normal urine under known conditions, would be of great importance to science; especially since the observations of Fick and Wislicenus, Haughton, and others, had tended to throw doubt upon the commonly received view that exercise increases the elimination of urea.

Mr. Weston is 31 years old; of medium height, rather slight; ordinary weight, without clothing, about 122 pounds. From his professional occupation, his hours of sleep and eating are quite irregular. He has never taken a course of "training," preparatory to his feats of endurance. His general health is perfect. At the time of the walk he was in "fine" condition, and his weight was five pounds less than ordinary.

The conditions during the walk were, as nearly as could be ascertained, the following:

Weight of body, without clothing, 117 pounds.

Food and drink taken: Beef essence, between one and two bottles; oatmeal gruel, two bottles; sixteen to eighteen eggs, raw, in water; lemonade, about half-a pint; champagne, about three fluidounces; brandy, two and one-half fluidounces; water to rinse mouth every few minutes, but little swallowed.

No sleep; no alvine evacuation; perspiration slight.

The urine passed during this time (counted as twenty-two hours) measured 73½ fluidounces (estimated for twenty-four hours at 80 fluidounces); acidity normal; color light canary; odor strongly urinous, but normal; specific gravity, 1011.55; no abnormal matters; microscopical examination negative. Analyzed by the methods detailed in the speaker's manual of the "Chemical Examination of the Urine," its composition per fluidounce was found to be:

Urine of Exercise per Fluidounce.

Urea	5.779 grs.
Chlorine	1.120 "
Sulphuric acid	0.920 "
Phosphoric acid (total)	1.504 "
Phosphoric acid (with alkalies)	1.280 "
Phosphoric acid (with earths)	0.224 "
Uric acid	0.500 "

The conditions during the twenty-four hours, 6 P.M. to 6 P.M., selected for collecting the standard specimen of urine for comparison, were as follows:

Weight, naked, 122 pounds.

Food and drink: Supper—Pickled lambs' tongues, warm light biscuit, one cup tea. Dinner—Cold corned beef, hot bread-cakes, one slice bread, one cup coffee. One glass effervescing root beer, and two cigars during day. Had eaten salt ham three hours before the beginning of the selected twenty-four hours.

Sleep between eleven and twelve hours; one alvine discharge (no urine lost).

The urine passed in the twenty-four hours measured 33 fluidounces; acidity rather faint; color light canary, slightly turbid; odor strongly urinous, but normal; specific gravity 1025.43; no abnormal matters; decomposition rather rapid; microscopical examination showed slight excess of mucus, otherwise negative. Analyzed by methods identical with the last, the composition per fluidounce was found to be:

Urine of Rest per Fluidounce.

Urea	5.800 grs.
Chlorine	3.360 "
Sulphuric acid	1.440 "
Phosphoric acid (total)	0.960 "
Phosphoric acid (with alkalies)	0.640 "
Phosphoric acid (with earths)	0.320 "
Uric acid	0.680 "

The Urine of Exercise, calculated for twenty-four hours, is compared with the Urine of Rest for twenty-four hours in the following table:

Urine of Rest and of Exercise for Twenty-four Hours.

	Rest.	Exercise.
Total quantity	33.000 fl. oz.	80.000 fl. oz.
Urea	191.400 grs.	463.368 grs.
Chlorine	110.880 "	89.808 "
Sulphuric acid	47.520 "	73.776 "
Phosphoric acid (total)	31.680 "	120.600 "
Phosphoric acid (with alkalies)	21.120 "	102.600 "
Phosphoric acid (with earths)	10.560 "	18.000 "
Uric acid	22.440 "	40.080 "

After making all allowances for differences of diet and other conditions, the speaker concluded that the severe and prolonged muscular exertion must be credited with producing a decided increase in the amount of water eliminated by the kidneys; an increase of from seventy-five to one hundred per cent. in the amount of urea eliminated; a considerable part of the increase in the sulphates and phosphates; and an increase of about seventy-eight per cent. in the uric acid. The diminution of the chlorides seemed pretty well accounted for by the diet.

For further calculations from the above data, and a more detailed statement of the points involved, we refer the reader to Dr. Flint's paper, which is to be published.*

The Society adjourned.

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* It appears in the *New York Medical Journal* for October.—ED.

SIXTY-FIFTH ANNIVERSARY MEETING, OCT. 3, 1870.

DR. JOHN R. VAN KLEEK in the Chair.

IN the absence of the President and Vice-President, Dr. Van Kleek was chosen President *pro tem.*

The minutes of the Comitia Minora for the year were read.

The Treasurer, Dr. BIBBINS, presented his report, showing a balance on hand of $434.06.

The following letter from the President, in response to the resolution passed at the meeting of 5th September, was read by the Recording Secretary:

GARRISON'S-ON-HUDSON, Sept. 16, 1870.

DR. PURDY, *Recording Sec. N. Y. County Med. Society:*

MY DEAR DOCTOR: I have the honor to acknowledge receipt of the resolution of the Society, conveying their sympathy with me in my recent illness, and their kind and friendly wishes. I am very grateful to the Society for their action in the matter, and am happy to assure them that my improvement justifies the greatest encouragement for the future, and the hope of speedy restoration to health. With the kindest regards for yourself, I am

Yours very truly,

GEORGE T. ELLIOT.

ELECTION OF OFFICERS.

The Society proceeded to ballot for officers, and the following were elected for the ensuing year:

President—Dr. Abram Jacobi.

Vice-President—Dr. Austin Flint, Sen.

Recording Secretary—Dr. Alfred E. M. Purdy.

Corresponding Secretary—Dr. Bradford S. Thompson.

Treasurer—Dr. Wm. B. Bibbins.

There being only a partial choice of Censors and Delegates to the State Society, further balloting for them was postponed to the next meeting.

NEW BY-LAW.

The following By-law, proposed at the last stated meeting, was adopted:

CHAP. I., ART. —.—Members whose dues are unpaid shall not be candidates for any official position in the Society, nor shall they be entitled to vote.

The Society adjourned.

ADJOURNED ANNIVERSARY MEETING, OCTOBER 10, 1870.

DR. T. GAILLARD THOMAS, Vice-President, in the Chair.

ELECTION OF OFFICERS CONCLUDED.

THE balloting for Censors for the year, and for Delegates to the State Society to serve for four years, was resumed and concluded. The following is the complete list of those elected:—

Censors.—Drs. Ellsworth Eliot, George T. Elliot, T. C. Finnell, J. C. Peters, Stephen Rogers.

Delegates.—Drs. Thomas S. Bahan, Nathan Bozeman, Salvatore Caro, William M. Chamberlain, Jean F. Chauveau, James J. Connolly, George T. Elliot, Thos. A. Emmet, Abram Jacobi, E. Lee Jones, Herman Knapp, Ernst Krackowizer, Robert Newman, Robert J. O'Sullivan, John C. Peters, Alfred E. M. Purdy, Stephen Rogers, James Ross, Andrew H. Smith, Bradford S. Thompson, William T. White.

The Society adjourned.

NEW YORK ACADEMY OF MEDICINE

STATED MEETING, SEPTEMBER 15, 1870.

DR. H. D. BULKLEY, PRESIDENT, in the Chair.

THE President announced the following names of deceased members of the Academy, who had died since the last Stated Meeting: Drs. James Warren, of Madison, N. J., æt. 76; John Shanks, N. Y., æt. 69; and Ex-Prof. Gunning S. Bedford—all old members.

DR. C. R. AGNEW then read an interesting paper on "*Practical Suggestions for the Treatment of Lachrymal Diseases.*" *Vide* page 366.

DR. D. B. ST. JOHN ROOSA remarked that he felt sure that he expressed the sentiments of the members present when he testified his appreciation of the résumé of Dr. Agnew's large experience in lachrymal disease which he has just given us.

There were one or two points in the paper to which he would like to add a word. He very well knew that, as Dr. Agnew had said, the surgical experience of to-day favored the rapid dilatation of stricture of mucous canals, and yet it was only lately so. The speaker well remembered, during his pupilage in the New York Hospital, where there were always a large number of cases of so-called impermeable stricture, the injunctions of Professor Van Buren to exhaust every effort by means of fine bougies and the well-known adjuvants to pass the stricture, before any resort to a cutting operation, and to continue the treatment thus begun, in the same way; and although surgeons with Dr. Van Buren have changed all that now, the good results he then saw and experienced had so impressed themselves upon him, that in the treatment of lachrymal stricture he had carried out these teachings.

Professor ARLT, of Vienna, in a monograph known to many of us, states that he is inclined to think that a lack of patience is the cause of many failures in the probe treatment, where excision of the lachrymal gland or lachrymal sac was resorted to for the cure of obstinate disease of this part.

His own experience, which had been, in common with all those who see much of eye disease, proportionally large in lachrymal affections, had been gratifying, even with full allowance for the favor with which one's own results are viewed.

Just one other point: While it must be admitted that in some cases naso-pharyngeal disease is coincidental with, and perhaps the cause of lachrymal affection, he thought it a fact going to show that it was not, perhaps, as common a cause as indicated or expressed in the paper, that in a large number of ear cases springing from catarrh, very few if any cases of lachrymal disease were found. As near as he could state without his notes, he did not remember one case in which catarrh of the middle ear was coincidental with lachrymal disease. The necessity of treating the naso-pharyngeal space was perhaps not always prominent. He would, however, re-echo what Dr. Agnew had said, in regard to the value of Dr. Pomeroy's instrument, which he considered the best for making applications to the mouth of the Eustachian tube that we have at hand.

DR. H. KNAPP.—Not having the honor of being a member of the Academy, allow me, Mr. President, to express my gratitude for the kind invitation to take part in the discussion on the important subject under consideration. I have attentively listened to, and am highly pleased with Dr. Agnew's paper. He entered thoroughly into the treatment of a group of diseases, which are exceedingly troublesome to the practitioner. Above all, I was delighted to see the doctor have due regard to the causes of lachrymal diseases. I cannot but agree with his views, and am sorry that I must differ from what Dr. Roosa said on this subject. If we do not admit that strictures of the nasal duct and their consequences are primary affections—and I think they are no more primary affections than strictures of the urethra—they must result from diseases either of the conjunctival or the Schneiderian mucous membranes. You may watch the multitude of conjunctival af-

fections that throng the New York Eye Dispensaries every day, and you will but very rarely see a case of blennorrhœa or trachoma complicated with a disease of the tear passages. Lachrymal affections must, therefore, start from the nose. I fully agree with Dr. Roosa's assertion that patients suffering from aural catarrhs, the origin of which, as is known, lies mostly in the region of the orifices of the Eustachian tubes, are not more the subjects of lachrymal difficulties than other people. But with regard to the extension of morbid conditions, the upper pharyngeal and posterior nasal region may be regarded as a space for itself, the diseases of which show a marked tendency to continue through the tube into the cavity of the tympanum, but have no great tendency to spread forward to the nasal passages or downward to the larynx. Physicians in general practice and specialists for throat diseases will testify, that patients suffering for years from laryngeal affections are not at all particularly liable to become hard of hearing, as would be the case if the diseases of the laryngeal mucosa had a tendency to extend upward. According to these views I consider it very rational to attack lachrymal troubles from the nasal mucous membrane. With Dr. Agnew, I am very much in favor of the posterior nares syringe, but employ it especially in ear diseases, while in those of the tear passages I should prefer the application of atomized astringents through the nostrils.

Another point in Dr. Agnew's paper with which I was particularly pleased, is his method of obliterating the lachrymal sac by slitting up the canaliculi and enlarging the wound through the membranous portion of the sac sufficiently to introduce the caustic. It closes the canaliculi with a certainty, avoids a scar in the skin, but may have the disadvantage that superfluous caustic may injure the eye-ball more easily than when the substance is put into the sac through an external wound, the eye-ball being protected by the closed lids.

I cannot lay so much stress as Dr. Agnew does on the advantages of opening abscesses of the lachrymal sac from the conjunctiva. By this method the canaliculi may be injured, and the fibres of the musculus compressor sacci lachrymalis severed, perhaps, to such an extent as to render the absorption of the tears incomplete. Besides that, I may say that an incision of the lachrymal sac through the skin heals very readily, leaves a scar only perceptible on close examination, and has the advantage to cut the cavity at its lowest portion, which renders the evacuation of the contents easiest.

I waited most anxiously to hear Dr. Agnew speak on one particular morbid condition of the tear passages, which covers the majority of the cases of lachrymal difficulty that come before the practitioner, and, by their obstinacy, are more troublesome than all the others—I mean the dilatation of the lachrymal sac in form of a diverticle. Even when by nature or medical treatment the nasal duct is rendered perfectly free, the tears will trickle down from the inner mouth of the canaliculi along the membranous wall of the sac, fill the diverticle and obstruct the upper end of the nasal duct. Thus epiphora is kept up, although the nasal duct be free, and, by stagnation of the muco-serous fluid, a predisposition is sustained for different kinds of inflammation in the sac and its surroundings. All attempts to obviate this annoying condition have hitherto failed. The most rational among them seems to me a proposal from Mr. Critchett of London, viz. to remove the diverticle by partial excision of the membranous wall of the sac. Although I do not recollect that the performance of this operation has been recorded, I have no doubts that in hands so skilled and experienced as those of Dr. Agnew, it must prove successful. And if it be successful, the cure of that most annoying difficulty will not merely be palliative, but a restitution of integrity.

Dr. O. D. Pomeroy stated, that the prominent indication, it seemed to him, in the treatment of the tear-duct, was to restore not only the natural calibre of the tube, but to induce a healthy condition of its mucous lining. To this end the probing should be performed with very great care, so as not to inflict undue violence on the part.

He well remembered treating a case of Dr. Roosa's, for him, in which an entire cure was effected by probes not exceeding the size of No. 3, when frequently Nos. 8 or 10 are introduced. When we reflect on the extreme minuteness of the lachrymal puncta, hardly large enough to introduce a pin's point, we readily see that size of canal is not as essential as the quality of the duct.

He had seen a No. 8 probe easily enter a tear-duct which would not admit a drop of tear, on account of the roughness of the canal walls, together with a boggy-like condition of things. A tube to convey a fluid must have smooth sides, its calibre must be at all times pervious, without the need to be stretched to induce a tubular form.

The knife with which the operation is done must fulfil several conditions. The one he has used latterly, and the best he has seen, is shaped like a grass sickle, although not as crooked. The point should be rather finely probed, so as to obviate the necessity of dilating the punctum by another instrument, as recommended by Soellberg Wells and others, the probed portion not extending back more than $\frac{1}{10}$th of an inch; the end of the cutting portion being very narrow—as narrow as well can be made—so that the instrument may be insinuated into the canaliculus almost as readily as a probe itself; otherwise there is danger of lacerating the mucous lining, or of making a false passage. The cutting edge extends as near the end of the instrument as possible, so that no portion of the duct may remain undivided, for it has been already shown that a favorite point of stricture is where the canaliculus joins the lachrymal sac.

With the method of treatment by injections from above, he certainly had not been very successful. It seemed as though the cases requiring special treatment of catarrhal conditions, contra-indicated much probing, and the nozzle of the most delicately-constructed syringe must irritate almost as much as the probe.

If there was any proposition which might carry with it a good degree of conviction, it was this: that naso-pharyngeal catarrh might, and very frequently did, travel up the Eustachian tube to the tympanic cavity, involving perhaps every part of the auditory apparatus, and in some instances extending to the brain itself.

In this condition of things it was a well-established fact that a strong solution (30 to 80 grains) of nitrate of silver, applied by the method suggested by Dr. Agnew, will not only *cure* the inflamed and occluded tube, rendering it pervious, but the inflammation of the tympanic cavity may succumb to this mode of treatment; but he is careful to avoid injecting the fluid up the tube to the cavity.

Applying this idea to the condition of the tear-duct, it would seem plausible that a similar course of treatment would be available here, provided the causation of the trouble lay in the throat and nostrils, which might be demonstrated in numbers of instances to be the case. The treatment of the general catarrhal condition would benefit the catarrh of the tear-duct, but if the application was made directly over the nasal extremity of the duct, much more benefit would result.

For this purpose the tube spoken of by Dr. Agnew was, so far, the best he knew of, although he felt a reluctance at its being so fully indorsed, as his studies in that direction had been insufficient for positive conclusions.

The tube should be passed along the floor of the nares with the outer extremity much elevated, so that the bent tube might hook beneath the overhanging inferior turbinated bone, and passed backwards about three-quarters of an inch. The difficulty was in the variable position of the canal. If, however, the injection was thrown near the mouth of the tube it would do very well.

In concluding, Dr. Pomeroy asserted that in old cases of catarrh a very strong solution of nitrate of silver was well borne—80 to 100 grains to the ounce. Weaker applications were often inefficient.

On motion of Dr. Post the Academy adjourned.

Correspondence.

THE THERAPEUTIC USES AND ABUSES OF QUININE.

To the Editor of the Medical Record.

Sir—Of course we read attentively the letter from Dr. Roberts Bartholow, which you published in your issue of the 15th Sept., 1870. We always read what he writes on the subject of quinine; and we generally read what comes in our way of his writings on any subject, even his letters at various times. This habit, perhaps, will account for the fact that we were not surprised by anything we read in this last letter. But for the apparent expectation on his part, that a certain query he propounds, be replied to, we find no reason to annoy you or the readers of the Record with a response to that letter. The query centres on the provocation we had for the preparation of our paper on the "Uses and Abuses of Quinia and its Salts," published in the 20th vol. of the Transactions of the American Medical Association. We hasten to gratify this laudable curiosity by stating that he is not entirely exempt from the responsibility of contributing to provoke it. But it is due to him to add, that such provocation was neither direct nor personal. His, and others' papers upon the subject of quinine and its relations to miasmatic poisoning and disease, containing statements discordant with our own belief as to the truth in important points of the subject, provoked us to record the results of our experience and study in highly miasmatic regions. We presumed that an aggregate large hospital and private practice of ten or twelve years, and much of the time in one of the most intensely miasmatic localities in the world, would be conceded as sufficient to give us a right to an opinion on this subject; and upon this presumption, we have ventured to record the truth as we comprehend it. If in so doing, we have referred, by way of illustration, to the statements of other authors, in such terms as to displease, the provocation has certainly never been of a personal nature. This we wish here to distinctly avow.

From the circumstances of our professional history above alluded to, we ventured to hope that the profession would regard us as excusable for entertaining some definite and systematic, and, perhaps, very positive ideas about the use of quinine in miasmatic exposure, and miasmatic infection, and miasmatic disease; and these anticipations had led us to hope that any warmth of expression we might be induced to employ in pointing out what we regard as important facts, or in calling attention to what we might regard as serious errors in the doctrines or in the writings of others, might not be attributed to other motive than the true one—viz., of stating the truth as we honestly understand, in the most forcible way. Those only who know, or think they know the truths, are annoyed at seeing statements which conflict with those real or supposed truths; and we apprehend that such may be pardonable if they occasionally exhibit a little vehemence. Of such a character the foot-notes to my paper on quinine—which appear to have been especially offensive to the author of this letter—sometimes perhaps are. But we now hope that he understands their provocation and motive. They are not personal. We do not believe in the doctrines he promulgates, and we say so distinctly. We seriously believe the practice he teaches to be dangerous, and we declare it. But now, in his letter, he no longer confronts us with his own experience and alleged research, but instead, shelters himself behind the "*ablest clinician in the United States*" (italics our own), and behind sundry other foreign ones, no doubt in their day equally able; all of whom do not agree with us as to the hour and the method of administering quinine in intermittents, but do agree with him. Upon this matter we would respectfully remark that, we went into practice well-nigh twenty years ago, fully convinced of the correctness of the teachings of these able "clinicians;" but time and an unusual field of observation, aided by the guidance of equally able practitioners with those named in said letter as his authority and shield, convinced us that those teachings are incorrect, those doctrines unfounded, and we have thought it our duty to communicate that conviction to the profession. We therefore stand upon our own platform; and while he is at perfect liberty to defend the eminence of his authority, we hold ourselves in readiness to demonstrate the truth of our declarations by the test of actual practice, willing to stand or fall with their success or failure.

We find that he has inexcusably, perhaps perversely, fallen into a somewhat serious error in assuming that our "knowledge of malarial disease is entirely clinical;" that we have not taken the trouble to inform ourselves "in the present state of scientific opinion in regard to the changes induced by malaria in the organism." Our connection for many years with hospitals devoted almost exclusively to the care of persons who had been for months or years infected with miasm, gave us ample and improved opportunity for microscopic investigation, of which he is at liberty to make a note, and to add that we made these investigations before he did science the service to compile material upon this subject. Our excuse for not treating the subject in the body of our paper on quinine is, that we deemed it improper to encumber a paper on materia medica and therapeutics with discourses upon morbid anatomy and pathology. We have not thus far found any reason, neither in anything contained in his contributions, nor in those of the very eminent authority he alludes to—and with whose views we beg to assure him we are acquainted—to change our original assertion, viz.: "It is quite gratuitous to suppose that because paroxysms recur from time to time, it is on account of structural changes in the organs of the body, especially of the liver and spleen." We have certainly found these organs free from any appreciable pathological condition, in many cadavers of persons who for years before death were the victims of frequently recurring paroxysms of ague. Neither on the subject of the pathology nor the treatment of miasmatic disease, therefore, do we yet find need for his, no doubt kindly meant, suggestion, that we re-

view our experience, which he pleases to characterize as "enormous." Again, it is true that in our paper on quinine we noted that Dr. Bartholow had not, in his paper on the same subject, alluded to its use in erysipelas—a fact which, in his letter, he does not dispute. As we regarded the use of the medicine in this disease as one of its most *important* uses, we thought it a proper means of fixing professional attention to it, by noting that a writer of his pretensions had not mentioned it. We still think it was a proper means, and it is certainly manifest that it has fixed the attention of at least one member of our profession to the fact. To this means the profession is most undoubtedly indebted for his effort to show that, though he did not allude to the use of quinine in erysipelas, in his paper on this medicine, he was not ignorant of its utility (*vide* his letter in the RECORD, pages 327 and 328). We have on our table Prof. Binz's contribution on quinine (quoted by him), but it furnishes no proof that Dr. Bartholow informed the profession that it is an invaluable agent in the treatment of erysipelatous inflammation. We will leave, therefore, the original record just as it stands before the profession. That is an impartial, and we have always found it a just reference. But the most notable portion of his letter is that in which he comments upon what we have said against the hypodermic use of quinine. Very justly has he foreseen that his "opinions cannot receive our approval." We do not see the faintest probability that our respective views can ever be made to harmonize. We totally despair of ever converting any one from a belief which he defends by an argument like the following, viz.: An isolated case of fatal tetanus, following the wound of the hypodermic syringe, used to introduce quinine, proves nothing. Tetanus has followed the puncture of a sewing-needle.

"According to Dr. Rogers's logic, the puncture of a needle having caused tetanus, needles should no more be used." (Vide *the* letter.)

What hope has the profession that the author of such an argument will ever recover his reason?

And again: "He" (Dr. Rogers) "applies the same logic to the other occasional accident of the hypodermic injection of quinine, the formation of abscesses. One would suppose from Dr. Rogers's statements that accidents from the internal use of quinine were unknown." (*Vide* the letter.) Has the profession any reasonable hope that the author of such a sentiment, of such a senseless deduction, will ever become a discreet and safe practitioner of our art, or that he will ever make a prudent teacher? Is it in the slightest degree probable that the physician who regards abscesses of a troublesome or dangerous character, and even tetanus induced by the hypodermic syringe, as among the *necessary* "accidents" of the therapeutic use of quinine, or who contends that *in addition to these "accidents"* the hypodermic use of the medicine is not quite as liable as any other method to be attended by the so-called casualties of medication with active agents, will ever reform into a reliable practitioner? We have no hope of this desirable consummation. He is, no doubt, sincere in his expressed belief, that "the utility and efficiency of the hypodermic method of using quinine are too well established to be set aside on the *dicta* of Dr. Rogers." (*Vide* letter.) As we have never attempted to disprove that quinine, thus administered, is both efficient and useful, this remark is quite uncalled for, and we suspect was an astute dodging of the real question at issue, viz.: *Is it not more dangerous than its advantages will compensate for?*

We believe it is; and though we have never presumed that our "*dicta*" would "set it aside," we have honestly opposed it as a system, and we think we have collected enough evidence, from the most trustworthy sources, in support of our views, both as to the danger of the practice and to its almost total needlessness, to convince most unprejudiced and sane minds that we have not so opposed it without reason. But of the author of this letter, as already said, we despair. We doubt if even a faculty committee could either convince or reclaim him. His concluding remark, in the letter under comment, is still further in proof that our despair has foundation. After quoting some most reliable authority in support of the facts we have urged upon the attention of the profession, as to the great activity and promptness of medicinal solutions when administered by the rectum, he appends the observation that the statements of these authorities "are not in accordance with generally accepted views," and, without any further inquiry as to whether these generally accepted views are correct, adds, "and will not, I am persuaded, be confirmed by those who make the trial."

It is due to the importance of the subject, however, to divulge the fact that a great number of practitioners are making the trial, and that we hope to hear the report of their results. Indeed, much evidence of professional reflection upon the subject has already reached us.

But as having a direct reference to the writings of the author of this letter, we will venture to quote a few sentences only from a note just received from Dr. Sale, of Aberdeen, Mississippi. It will be recollected that this is the gentleman who contributed the history of the fatal tetanus, caused by the wound attending a hypodermic injection of quinine, and who, out of the ten cases in which he employed the medicine in this manner, had four other cases in which he found cause to regret having done so, on account of the violent inflammation which had been the consequence. He says: "I write this note, after a careful perusal of your communication to the New York MEDICAL RECORD on the hypodermic use of quinine, to express my thanks, and my entire concurrence in your views therein expressed, with but *two exceptions*. I recognize two conditions in which the *intra-venous* method is deemed appropriate." "One of these conditions," he says, "is sometimes met with in the South and West, as the result of hyper-emetico-catharsis, before the physician sees the patient. Very great irritability of stomach and rectum in these cases may," he thinks, "render the administration of medicine by them impracticable." We would remark, however, that we have given quinine by the rectum in acute dysentery complicating miasmatic fever, with no difficulty, and most satisfactory results, by merely adding from one-sixth to one-fourth of a grain of sulphate morphine to the solution. The other exception mentioned by Dr. Sale is found, he thinks, in the *malarial coma* of the malignant form of miasmatic fever, attended by arrest of power of deglutition, and by relaxation of sphincters. As these are just the kind of cases in which we have realized the most remarkable advantage from the rectal use of quinine, we feel assured that Dr. Sale will not encounter the difficulties he anticipates.

(See our paper on Quinine, 20th vol. Trans. American Medical Association, p. 213.) "These," adds Dr. Sale, "are the only conditions in which I would use it, and, as you see, only as a *dernier-ressort*."

At about the same date, Professor Loving, of the Starling Medical College, writes us as follows: "Your paper in the RECORD, on the hypodermic use of quinine, expresses the opinion I have often uttered in regard to that mode of administering the medicine. I think I said to you, in a former letter, that this method of using

medicines should be restricted to the neutral salt solutions, like those of morphia, atropia, etc. I perfectly agree with you, that if we can get the good effects of quinine by neither stomach nor rectum, we are rarely likely to get them by the hypodermic use; and we are pretty sure to get by this mode the evil results you so well portray in your paper. Go on touching the subject again, and may success reward you." We beg to be allowed to say that there are few physicians in this or any other country whose hospital and private practice with miasmatic disease has been more extensive than has Prof. Loving's, and that we hence value his opinion on the subject in question far above that of some we might mention, who have written much more about it than he has; and we feel proud of his sympathy with, and encouragement of our efforts to save humanity from the needless pangs and dangers of the hypodermic use of quinine. Before closing we wish to say, in response to the statement of Dr. Bartholow, that he has had occasion, before the present one, to allude to our "writings but in one instance, and then in decidedly complimentary expressions," that, while we have not the satisfaction of knowing when or where that occasion was, we presume that he found reason for his approval in what we had been so fortunate as to write.

It assuredly would be very uncomplimentary to him, were we to suppose that he had complimented any labor of ours which, in the light of science and of professional common sense, was unworthy of such compliment. We do not believe he would.

Though we may fail in the contents of this note to secure his approbation, still we intend to cultivate and to disseminate such ideas as may merit, and we fondly hope may receive, both his, and the general professional approval.

STEPHEN ROGERS.

249 WEST 42d STREET.

THE HYPODERMIC INJECTION OF QUININE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR—In your issue of August 1, 1870, there appeared a letter from Dr. Stephen Rogers, in which that gentleman dwells upon the danger attending the hypodermic use of sulphate of quinia. The doctor speaks of the physicians of the New York Hospital as having expressed opinions on the subject. I must confess that I have failed to find in the medical journals any communication touching this matter by any of the six gentlemen of the medical staff of that institution. However, on reading Dr. Rogers's paper in the Transactions of the Am. Med. Assoc. for 1869, I find that he refers to reports published by me in the *New York Medical Journal*.* It may be proper to state that these reports were in nowise *inspired* by any of the attending physicians of the New York Hospital, and that no one but myself is responsible for any opinion or statement therein put forth. There are many points in Dr. Rogers's paper which might call for criticism; but my object is simply to state certain facts and opinions expressed by men experienced in the almost daily use of hypodermic injections of quinia, bearing upon the main point at issue, viz.: the supposed danger of acid solutions used hypodermically. This is, it strikes me, a matter of importance in the whole field of hypodermic medication, and it is important to know if there be any evidence proving that a moderately acid solution thrown under the skin causes abscess, tetanus, or other grave disturbances. I may here state that not one word in the doctor's letter, or in his paper in the Trans. of the Am. Med. Assoc., 1869, indicates that he has ever given a single hypodermic injection of quinia! How far this circumstance qualifies Dr. Rogers to sit in judgment upon the question at issue, I leave to the readers of the RECORD.

A case of tetanus occurring after a hypodermic injection of quinia, related by Dr. Sale in the *New Orleans Medical Journal*, is referred to by Dr. Rogers and the *post hoc ergo propter hoc* indorsed. We are not afforded proof that no nerve was wounded in administering the injection; that no solid particles (crystal of quinia, or foreign bodies) entered the subcutaneous connective tissue; nor that the climatic conditions were unfavorable to the development of the neurosis; all points, in my opinion, worthy of investigation before deciding that the tetanus was "produced by the administration of quinia hypodermically."

The report of the Committee of the Royal Medical and Chirurgical Society (*Medico-Chirurg. Trans.*, 1867) is most unsatisfactory, and fails to meet the requirements of modern experimental physiology. The committee do advise against the use of acid, or strongly alkaline solutions; while nothing in their report appears to show that a well-made acid solution produces inflammation. The abscess which they had to treat, after an injection of quinia, was provoked by the introduction of one ounce (!) of solution into the areolar tissue. Nowhere do they refer to the necessity of carefully filtering solutions, or to peculiar care in the cleaning of the syringe. Those who first employed the method, Chasseaud, Moore, Desvignes, were unfortunately obliged to use very imperfect syringes, or even to introduce the solution of quinia through an incision: consequently the local troubles which they had to deal with cannot rightfully be brought into this inquiry.

Now for the opinion of more recent writers on the subject. Chas. Hunter (*Lancet*, 1863, vol. ii., p. 444), speaking of hypodermic injections of quinia, says: "But is there no fear of abscess or diffuse inflammation following the puncture? So frequently have I been asked the question, that I take the present opportunity to reply, No, certainly not." He then speaks of various precautions to be observed in attempting this method, and adds, *without giving any facts to support his position:* "To employ a fluid otherwise than neutral would also irritate. True, some fluids cannot be made perfectly neutral, but so nearly so, that no irritation occurs." The difference between a nearly neutral and a slightly acid fluid is rather difficult to ascertain, I imagine. An even greater authority, probably the best writer and experimenter on the entire subject of hypodermic medication, A. Eulenberg, is even more explicit in his statement.* At page 40, he states that he has never seen local inflammatory trouble follow hypodermic injections of quinia in his own practice; adding, that in the practice of a colleague, a swelling, at first painful, lasting one month, ensued after the injection of a "turbid" solution. And yet, Dr. Eulenberg's formula is so like that of the New York Hospital, that it must be startling to one who sees in dilute sulphuric acid a fertile cause of abscess, tetanus, etc. Eulenberg directs quiniæ sulph. ʒ i., acid. sulph. dil. q. s., aquæ destil. ℥ i., to be mixed and filtered. How far the q. s. in this solution differs from the ♏ 40 in that used at the New York Hospital, I leave to pharmaceutists to determine.

* On the Subcutaneous Use of Sulphate of Quinia in Cases of Malarial Neuralgia.—*New York Med. Journal*, August, 1867.
On the Treatment of Malarial Fevers by the Subcutaneous Use of the Sulphate of Quinia.—*New York Med. Journal*, Dec. 1867.

* Die Hypodermatische Injection der Arzneimittel u. s. w. Berlin, 1867.

In the New York Hospital quinia was first used hypodermically in Sept., 1866, and this "abuse" of quinia was continued until the breaking up of the institution in Feb., 1870. At first all cases treated in this way were recorded with care; but during the last two years of this period, hypodermic injections of quinia were looked upon so much as a matter of routine, that, although very frequently employed, there are but few entered in the hospital case-books. I take the present opportunity of saying, that to Dr. W. Thurman, resident physician, in 1866, is due the credit of making the formula, and of laying down many of the important rules for the safe administration of the solution. The following is the result of my search through the case-books of the four years, giving the *minimum* number of injections recorded in those books, and the number of abscesses occurring. The latter matter has been the subject of oral and written questions addressed to all the residents on duty during the four years, so that the abscess list is, I believe, absolutely correct.

W. Thurman, Res. Phys., April 1 to Dec. 1, 1866, 70 injections, 2 abscesses (both in one case).

E. C. Seguin, Res. Phys., Dec. 2, 1866, to Aug. 7, 1867, 318 injections, 4 abscesses (all in one case, and previous to Jan. 15). One patient received at least 106 injections, taking quinia as a tonic in this manner, without having a single abscess or local trouble of any sort. This case alone should decide the question of the danger of acid solutions, as the subject was extremely anæmic and feeble, and was therefore well disposed to inflammatory manifestations. It was during this period of eleven months that the six "phlegmonoid swellings" occurred, and were successfully treated.

T. Skelding, Res. Phys., August 8, 1867, to April 8, 1868, 115 injections, 1 abscess (fluid thrown into cutis proper).

J. Vanderpool, Res. Phys., April 9, 1868, to Dec. 1, 1868, 62 injections, 2 abscesses.

[Dr. V. writes me, that a very much larger number of injections were given in this period.]

A. H. Buck, Res. Phys., Dec. 2, 1868, to April 1, 1869, 4 injections, no abscess.

[Dr. B. tells me that during his service hypodermic injections of quinia were very frequently given.]

L. D. Bulkley, Res. Phys., April 2 to August 2, 1869, 2 injections recorded (many given), no abscess.

G. A. Hathaway, Res. Phys., Aug. 3, 1869, to Feb., 1870, 22 injections, no abscess.

The total number of injections recorded on the books is 593; the number of abscesses recorded and recalled is 9.

I think, moreover, that the above-named gentlemen would concur with me in estimating, that at least one thousand hypodermic injections of quinia were given at the hospital from September, 1866, to February, 1870. It is noteworthy, that *six* of the nine abscesses occurred within the first four months of the practice, and in *two cases*. The above residents, without exception, express it as their deliberate opinion, that the sulphuric acid in the solution is not *per se* a cause of local inflammatory trouble. With this view I concur; and go further, with my friend Dr. Thurman, in thinking that the acid is, by insuring perfect solution of the crystals, a source of safety. The ex-residents assign to various causes the production of the abscesses falling under their observation, such as undissolved crystals of quinia, foreign particles in the solution (dust, fungi, sealing-wax), haste in the operation, the throwing of the fluid in the cutis, and want of care in cleaning the syringe.

After offering this evidence to the readers of the Record, I feel that something should be added concerning the method of giving the solution employed at the New York Hospital. The formula for the solution was: "Take of sulphate of quinia 60 grains, dilute sulphuric acid 40 minims, distilled water 1 fluid ounce. Mix, make a solution, and filter with the greatest care." Thirty-five minims of this solution contain four grains of quinia.

(*a*) The solution was often inspected, and re-filtered when required. The hypodermic syringe was cleaned with water *always* (at least during my own term of service) before or after use. (*b*) Of course, in a hospital receiving a large number of cases of malarial disease, as did the New York Hospital, the syringe is used so much that there is little danger of rust or dust settling upon any of its parts. In private practice too much care cannot be taken in cleaning the instrument often. (*c*) The following rules for the operation, given in my first report, I believe still to be good: "A fold of skin being taken up between the thumb and forefinger of the left hand, the point of the syringe was introduced at the top of the fold, where a partial anæsthesia had been induced by the pressure; the needle being put in its full length, the solution was forced in gradually as the needle was withdrawn, so as to throw the liquid as much as possible into the track of the wound, and to cause the least possible rupture of the connective tissue. After taking out the syringe a little circular friction was generally used, with the view of assisting absorption. The slight hæmorrhage sometimes following the operation was easily controlled by finger-pressure."

Judging from experience, I unhesitatingly recommend this method of giving quinia in the following circumstances: 1st. In general hospitals, civil and military, where economy in the use of quinia is a *desideratum;* at the New York hospital no saving was effected on the whole, in the opinion of Mr. Johnson, the very capable apothecary of the hospital. This was owing to a number of causes which I cannot enter upon here, but which do not prevent me from saying that the method *may* be made economical. 2d. In private practice, in cases of congestive fever, when quinia cannot be administered by the mouth, or where rapid action is desired. I do not advocate this to the exclusion of the injection of the remedy into the rectum, as recommended by Dr. Rogers, but would remark that well-directed experiments are needed upon this point. 3d. In private and hospital practice, for the treatment of neuralgia of malarial origin, in which affection remarkable results are obtained by local injections of quinia; the drug acting in its specific manner upon the system, and locally by counter-irritation. Lastly, I may state that Dr. Lucius D. Bulkley has informed me that, while resident in the hospital, he several times observed a rapid improvement in the pulse of patients affected with partial collapse, subsequent to severe hæmoptysis, after the simultaneous injection of two, three, and even four full doses of quinia (♏xxxv) under the skin.

Yours respectfully,

E. C. Seguin.

58 West 26th Street.

THE CERTIFICATES OF DEATH FROM PHYSICIANS.

BUREAU OF RECORDS OF VITAL STATISTICS, HEALTH DEPARTMENT OF THE CITY OF NEW YORK, NO. 301 MOTT STREET.

New York, *Oct.* 7, 1870.

TO THE EDITOR OF THE MEDICAL RECORD.

Sir—For the general information of the profession I beg that you will publish the following resolution passed by the Board of Health August 23, 1870:—

"It shall be the duty of each and every practising physician in the city of New York to report in writing to the Board of Health the death of any of his patients who shall have died in said city of disease, within 24 hours thereafter, and to state in such report the specific name and type of such disease."

The object of the above resolution is to correct what has become a very serious abuse, viz: the detention of Certificates of Death for days, and in some cases weeks, by Undertakers to whom they have been entrusted, and the consequent suppression, for that period, of information essential to the proper operation of this Department.

I have been directed by the Board to report the names of all physicians neglecting to comply with the twenty-four hour regulation. The penalty for each offence is a fine of $100.

The resolution referred to has been advertised according to law in the secular press. Perhaps the publication of this note in your Journal may be of some value as a further means of information to many who might otherwise remain in ignorance of the law.

Very respectfully, your obedient servant,

CHAS. P. RUSSEL, M. D.

Register of Records.

Medical Items and News.

PROF. VON GRAEFE'S FORTUNE.—The annual income of the late Von Graefe, inherited from his father, was about $25,000, while that from his profession was estimated at $100,000.

THE FIRST INSTANCE WHERE INSURANCE HAS BEEN PAID ON THE LIFE OF A CENTENARIAN.—An English insurance company recently paid the insurance of a man who took out his policy in 1799, and died at the age of 103.

OVARIOTOMY IN A VERY YOUNG SUBJECT.—Prof. Jonon, of Nantes, not long ago removed an abdominal tumor from a girl, 12 years of age, who had been suffering eighteen months. The cyst was multilocular, and the adhesions numerous. On the forty-sixth day after the operation she was well.

A MEDICAL STATESMAN.—It is not often that we refer to international politics. The revelations of duplicity and intriguing which have just spread abroad an universal feeling of insecurity and mistrust induce us, however, to recall to memory the career as a statesman of a member of our own profession. Virchow is perhaps the most illustrious of living physicians; he has, too, the honor of having been for many years the foremost opponent of the ambitious and unprincipled schemes of Count Bismarck. At one time matters had gone so far, that rumor averred that the Count had sent him a challenge to fight a duel. For years Virchow, in his capacity as representative, was the eloquent and fearless opponent of all arbitrary exercise of power and unflinching advocate of popular institutions. The success of Bismarck's great but unprincipled schemes, in reference, first to Schleswig, and secondly to Austria, threw the constitutional party in Prussia into the background. Those who, with eyes opened by recent events, see in honest parliamentary government the only real security against the base plots of military autocrats, will now know how to appreciate the course taken by our illustrious *confrère*, and will equally admire in Virchow the genius of the pathologist and the sagacity of the patriot. It is not often permitted to the same man to display such splendid excellence in such different careers.—*British Med. Journal.*

DIAGNOSIS BETWEEN REAL AND APPARENT DEATH.—Dr. Laborde, in a paper recently read by him before the Academy of Medicine in Paris, has endeavored to show that the effect produced on a bright steel needle inserted into the body indicates whether death has or has not occurred. When life is present, he says, the needle, generally very soon, becomes more or less tarnished by oxidation; when, on the other hand, death has taken place, the needle, even at the end of half an hour or an hour, will retain its brightness. M. Laborde believes that, in the first instance, the occurrence of oxidation, with its attendant electric phenomena, indicates that death is only apparent; while, in the second, the complete absence of oxidation is a sign of real death. The communication has been referred to a committee consisting of MM. Gavarret, Béclard, and Vulpian.—*British Med. Journal.*

MEDICAL EDUCATION FOR WOMEN.—Fourteen ladies are studying at the University of Zurich, twelve of whom are in the department of medicine, and two in philosophy. One of these ladies is from Boston, two from London, one from Edinburgh, eight from Russia, one from Finland, and one from Switzerland.

STEAMBOAT AMBULANCES ON THE RHINE.—Ten steamboats are on service as floating ambulances on the Rhine, from Mannheim to Dusseldorf. The Geneva flag floats at the topmast of each. The wounded are better located in these floating hospitals than they were before; but there is a want of medical aid in them.

A SURGEON KILLED.—Among the physicians killed on the field, victims of their devotion, is M. Milliot. He was extracting a bullet from Colonel Colomieu, and had just successfully completed the operation, when he was killed on the spot.

COMPOSITION OF BONES.—At the meeting of the Academy of Sciences, August 16th, M. Wurtz presented a note by M. F. Papillon, on modifications in the immediate composition of bones, proving that the normal lime contained in the bones of animals may be partially replaced by alumina, magnesia, or strontia, by including these substances in their food.

SMALLPOX IN IRELAND.—So thoroughly is Ireland now guarded from smallpox by compulsory vaccination, that only one death from it occurred in that country during the last quarter.

PLAGUE IN SOUTH AMERICA.—A report comes from Chili to the effect that an epidemic has appeared in that republic. The first symptoms are described as those of fever, followed on the second or third day by the outbreak of gangrenous spots on the face; then ulceration supervenes, especially about the nose and mouth, which fall off in pieces. We await a confirmation of this report with some degree of interest, for, in the absence of more purely medical details, we can only say that the symptoms would apparently correspond with the disease known as plague, which, under a variety of modifications, devastated Europe during the classical and middle ages, its last appearance having taken place, if we remember aright, at Bengasi, about ten years ago.—*Lancet.*

CORNELL UNIVERSITY.—This young and flourishing University, through Prof. Goldwin Smith, is the recipent of a case of human bones from an old cemetery in England. These remains are valuable as demonstrating that our female ancestors were not necessarily of Celtic origin, whom our Saxon forefathers found in the island, as some of them are indisputably remains of female skeletons of the Saxon race.

A. "Headless Horseman."—At the battle of Wöerth it is said that at the third charge of the Cuirassiers a horse was to be seen going at full speed with a headless rider. The mutilated corpse was that of M. de la Futzun de Lacarre, Colonel of the 3rd Regiment of Cuirassiers, who had been decapitated by a cannon-ball. Most people on reading this would declare that it was a mere sensation paragraph, totally devoid of truth. Such an occurrence, however, would not by any means seem to be an impossibility.—*Lancet.*

A New Antiseptic.—The hydrated chloride of aluminium, to which Mr. John Gamgee has recently drawn the attention of medical men and of the general public, appears to be a valuable antiseptic. It is quite as potent as chloride of zinc or carbolic acid, and is at the same time non-poisonous, and devoid of unpleasant smell of every kind. These qualities will no doubt ensure its being extensively used, and at no distant date we may expect it to displace the antiseptics which are at present in vogue.

It is somewhat strange that this substance should have been so long overlooked as a possible antiseptic, and Mr. Gamgee certainly deserves credit for suggesting the utilization of it for this purpose. The reason why it has been passed over is probably to be sought in its not being a waste product in any common chemical manufacture. The anhydrous chloride of aluminium, which is manufactured in order to serve for the preparation of metallic aluminium, is far too costly on account of the troublesome nature of the process by which it is prepared—to wit, by passing chlorine at high temperatures over a mixture of aluminium and charcoal. By placing the anhydrous chloride of aluminium in water, it is of course converted into hydrated chloride.

The most economical process for the preparation of the hydrated chloride of aluminium appears to be by double decomposition between sulphate of alumina and chloride of calcium (both of which are cheap commercial products.) When solutions of these two salts are mixed together, sulphate of lime is formed and appears as a precipitate, whilst the hydrated chloride of aluminium remains dissolved.

On allowing the aqueous solution to evaporate at a very gentle heat and afterwards cooling, crystals of hydrated chloride are produced. If an attempt be made to drive off the water from the hydrated chloride by the application of heat, decomposition will take place. Hydrochloric acid is evolved under these conditions, and oxy-chloride of aluminium is formed, and, by pushing the process, alumina is obtained as the ultimate fixed product.—*Lancet.*

Tubercular Meningitis.—Dr. Vogel, in his work on Diseases of Children, denies that it is possible to prove the absence of inherited taint in this fatal disease, and, from several years of large practice in a poor district, he concludes that tuberculosis is far less common than it would be if external conditions had much influence in its production. He regards the arachnoid as the seat of tubercles in this disease. He observes that in this disease it is always to be remarked that an older, larger, yellow tubercle exists somewhere else in the body. He condemns the use of mercury in this disease.

Professor James P. White, M.D.—The faculty of the Bellevue Hospital Medical College have secured the services of Prof. White, of Buffalo, as lecturer upon Obstetrics and Diseases of Women and Children, and Clinical Midwifery, for the present session, rendered necessary by the illness of Professor George T. Elliot, M.D., the incumbent of the chair.

The Medical Times of Philadelphia.—We have received the first number of this journal, which was issued on the 1st of October. It is well printed, contains sixteen doubled-columned pages, and is to be issued semi-monthly. The number before us is an excellent one in every respect, giving an assurance that the editor, Dr. Rhodes, not only understands what he has to do, but how to do it. It contains first-class articles by Drs. S. D. Gross, Alfred Stillé, Hunter McGuire, R. Bartholow, and C. T. Hunter.

Signs of Death.—It will be remembered that a bequest has been recently made to the Academy of Medicine of Paris for the purpose of enabling the Academy to award annually a valuable prize for the best means of unfailingly demonstrating the existence of death, and thus guarding against premature sepulture. M. Bonchut has suggested that the contraction and dilatation of the pupil by calabar bean and atropine is a reliable test, and one capable of being employed without suffering or danger to the patient.—*Med. Press and Circular.*

Croup.—Dr. Vogel, of Dorpat, Russia, says that both emetics and tracheotomy are useless in croup, which in well declared cases may be set down as a fatal disease. He believes that the reason why Trousseau succeeded so often in his tracheotomy cases was because diphtheria is common in that country and that croup is often confounded with catarrhal laryngitis.

Variations in Maternal Milk.—M. Louis Sourdat has addressed to the Paris Academy of Sciences an observation on the unequal production and differing composition of the milk from two breasts of the same woman.

Having noticed the very remarkable preference manifested by the infant for the right breast of its mother—a preference shown by two previous children—and having at the same time made the remark that the right breast was much larger than the other, and gave double the quantity of milk, he thought it worth while to make examination of the milk from each. He arrived at the following conclusions:—

1. The composition of the milk produced by the two breasts, taken together, is from day to day very variable, although there be no appreciable change in the state of health. But temporary fatigue, or change of diet, or the keeping of the milk in the breasts, is sufficient to cause this difference. Thus, in analyses, the dried residue varied from 10 to 13·70 per cent. The density was also very variable. He obtained for the mean of the two breasts specific gravities varying from ·980 to 1·031.

New Publications.

Books Received.

The Medical Herbarium, a collection of Dried Samples of Medicinal Plants. By T. F. Allen, M.D., N. Y. Part 1. Folio.

The Physician's Visiting List, for 1871. Philadelphia: Lindsay & Blakiston.

A Handbook of Medical Microscopy. By Joseph G. Richardson, M.D., Microscopist to the Pennsylvania Hospital, etc. Philadelphia: J. B. Lippincott & Co. 1871.

Practical Anatomy: A Manual of Dissection. By Christopher Heath, F.R.C.S. 1st American, from 2d English edition. Edited, with additions, by William W. Keen, M.D., Lecturer on Practical Anatomy in the Jefferson Medical College, etc. Philadelphia: H. C. Lea. 1871.

Original Lectures.

A LECTURE ON THE EXAMINATION OF AURAL PATIENTS.

By D. B. ST. JOHN ROOSA, M.D.,

CLINICAL PROFESSOR OF DISEASES OF THE EYE AND EAR IN THE UNIVERSITY OF NEW YORK, ETC.

GENTLEMEN—It is a self-evident proposition that in order to the intelligent treatment of any disease, there must be a careful and thorough examination of the parts involved. This is certainly as true as regards the affections of the ear as of those of any other organ. In making such an examination a definite plan should be followed, even in the seemingly simple cases, until at last a large experience enables the practitioner to omit or hurry over some of the details which were necessary in the beginning of his practice.

In the examination of an aural patient, the following method is the one that I have found very useful: I usually keep a record of the cases; a plan which the young, and consequently not very busy, practitioner will find extremely valuable. The name, age, and occupation of the patient are noted. The history should then be given. This history should include a pretty full statement of the general condition, the diseases from which the patient has suffered, the number of times he has had what is called "ear ache," the medication to which he has been subjected, and so on, from his earliest recollections until the date of his coming under observation as an aural patient.

By no other means than by eliciting such a history can the practitioner get the essential knowledge for a thorough understanding of the subjective manifestations of the affection of the ear. It is very important to ascertain when the troublesome symptoms were *first* observed. Sometimes several minutes will be consumed in obtaining an answer to this question. The first reply will be, perhaps, "a few months ago," or, "a year or two." If this response be followed by the inquiry, "Before that time were your ears perfectly well?" in many instances the patient will state, "Well, no. I have had a little dulness of hearing on one side, for ten or twelve years, or for a good while" (which proves to be a number of years), or perhaps he says "there has been a little discharge from that ear, which 'didn't amount to much,' ever since I had the scarlet fever or the measles." As illustrative of this point, I may mention a case which lately came to this clinic, one which some of you remember; the patient, an old man, gave the following history:—"While sitting quietly by the fire, blood began to run from his ears, until he had lost quite an amount; he stated positively that this was the first time in all his long life that he had ever been affected with an ear trouble, and that he could imagine no cause for it." On close examination with the style of questioning above indicated, he admitted that he had suffered from a "slight running from the ears, which didn't signify, ever since he was a child." An inspection of the organs showed that both membranæ tympani were removed by ulceration, and that exuberant granulations existed, which accounted for this seemingly mysterious hemorrhage, to which the patient could assign no cause.

It is well in obtaining the history to allow the patient to tell his own story, occasionally interrupting him, as may be necessary, in order to keep him to the matter in hand. After having thus obtained as accurate a history as may be, testing the amount of hearing comes next in order. We have three means for this purpose:—

1. The tick of a watch.
2. Ordinary conversation.
3. The tuning fork.

The second of these tests, the power of hearing conversation, perhaps tells the most about a person's practical hearing power, and yet it is the one that is carried out with most difficulty. There are many persons, who can hear the tick of an ordinary watch but a short distance, say six inches, and yet are able to hear ordinary conversation with some ease; and on the other hand, there are others, who can hear the same watch twice as far, but who are utterly unable to enjoy conversation carried on in an ordinary tone. About the best test of the hearing power that we have is the one which shows the patient's capability for hearing what is said in social intercourse, at the table, in the drawing-room, and so on. Inasmuch, however, as practitioners, especially those who live in large cities or towns, have not always, or even usually, the opportunity of making such a test of their patient's hearing capabilities, and since the amount of this power, although it may be appreciated by the observer himself, cannot be made clear to one who simply reads the case, we are obliged, in recording the histories of patients, to be content with a statement as to how far an ordinary ticking watch may be heard, or words directed to the person observed, when his face is so placed that he cannot see the mouth of the speaker. This latter precaution is an essential one, since all persons with impaired hearing soon learn to watch the lips of the speaker, in order to compensate for their loss of hearing power.

In order to test the hearing by means of the watch, it should be first placed at a distance at which its ticking cannot be heard by the patient, and then gradually approached to a situation where the ticks can be accurately counted. The latter may fairly be considered as the farthest point of distinct hearing. The ear which is not being tested should be closed during the examination by the hand. It is hard to state the distance at which a watch should be heard by a healthy ear, for the simple reason that different watches may be heard at different distances, so varying is the distinctness of the tick. It may be approximately stated, however, that an ordinary ticking watch should be heard, by a person with average hearing power, at least four feet. There are, however, exceptions to this rule. For instance, I know a medical gentleman in this city, who, as tested by the ordinary transactions of professional and social life, is not at all hard of hearing, who cannot hear a watch of common tone more than six inches. Exact examination would undoubtedly show that this gentleman's hearing is defective with regard to all tones like those of a watch.

In testing the hearing power by means of a watch, it is well to remember, as Tröltsch suggests, that all watches are heard better immediately after they are wound, and also that the intensity of their sound is increased by holding them so that the surgeon's hand covers the back, or when they are held by the patient's own hand. In the two latter instances the cause of the increased clearness of the tick is, in the one case, the prevention of reflection of sonorous waves from the watch, and in the other, the conducting power of the patient's own arm as it is stretched out.

The use of a tape or other measurer, to note the number of inches at which the watch is heard, is indispensable for an accurate record of a case. The measure should not be used, however, until the distance has been ascertained without it.

When the patient cannot hear the watch at any distance from the ear, it should be laid or pressed upon the auricle, mastoid process, or forehead. Before using a watch for the purpose of testing the hearing power of diseased ears we should carefully ascertain how far it may be heard by persons whose hearing is unimpaired.

The tuning fork is of value in determining if any disease of the auditory nerve exists, and if so, whether its lesion predominate over the affection of the outer parts of the ear.

As is well known, if we close our ears, and speak, the sound of the voice seems to be confined to the head, as it were, its reflection being to a certain extent prevented by the closure of the external auditory canal. If now the auditory nerve be sound, and there be impacted wax in one auditory canal, or a thickening of the mucous membrane lining the cavity of the tympanum, the state of things will be similar to that when the external meatus is closed by the finger, or by some similar means, and the vibration of the tuning fork will be heard more distinctly by an ear thus affected than by the sound one. If both ears are equally affected, it will be, of course, more difficult to come to a conclusion. If the nerve be seriously impaired, either primarily or secondarily, by disease which has extended from the middle ear, no such marked difference will be noticed when the external meatus is closed.

Again, when the tick of a watch cannot be heard at all, if the auditory nerve be not seriously impaired, the vibrations of the tuning fork, when its handle is placed on the teeth, forehead, or mastoid process, will be distinctly heard, while if the nerve be the seat of serious lesion, these vibrations will not be at all perceived in the head. Some deaf-mutes, who were born deaf, and probably with a disease of the central apparatus, have assured me that they always felt the sound of the tuning fork passing to the region of the diaphragm or stomach, and they wou'd involuntarily place their hand there when the vibration began. The large tuning forks of the note C are to be preferred to the smaller ones.

Von Conta* of Weimar, some years since, recommended that the tuning fork be used to the exclusion of the watch, in testing the hearing distance. In his method an elastic tube is used through which the waves of sound are conducted, instead of through the uninclosed air. The number of seconds or minutes during which the gradually decreasing vibrations of the tuning fork are heard becomes the measure of the hearing power. The fork is struck upon the knee of the examiner, and then immediately placed in the outer extremity of the tube, which has been previously placed in the patient's ear. The instant he ceases to hear the vibrations he informs the surgeon by the word, "now," who has noted the time with the watch in hand when the fork was placed in the tube.

This method is certainly not without value, but the desideratum, namely, a method by which the ability to hear sounds resembling the human voice may be accurately estimated, is yet to be obtained.

In testing the visual power we have means which indicate the practical loss of sight which the patient may have suffered. It is to be hoped that the physiology of hearing may at no distant day present us one for the accurate estimation of a loss of hearing power.

The next step after noting the hearing power in the examination of our imaginary patient, is the exploration of the auditory canal and the membranæ tympani.

It is, of course, implied in this that an affection of the auricle needs no special assistance for examination.

For the purpose of examining the external auditory canal three instruments may be necessary: a pair of angular forceps, an aural speculum, and a concave mirror or reflector. The first is of use to remove any temporary obstructions which may prevent a view; the second dilates the canal; and the third throws the light into it.

According to Wilde,* Dr. Newburg, in a Memoir published at Brussels in 1827, recommended an instrument which is the origin of all the tubular ear specula now in use. It was a slender horn tube, four inches long, with a bell-shaped outer orifice. Subsequently this instrument, which was much too long, was improved by shortening it, by Dr. Ignaz Gruber, of Vienna, and generally introduced to the profession by Sir William Wilde, in 1844. Wilde's instruments have been used by myself, to the exclusion of all others, after a fair trial of the bivalvular instrument of Kramer, and the funnel-shaped one of Toynbee. It has always been an efficient instrument in my hands. A tubular instrument of some sort is usually accepted as being the best means of exposing the canal.

Those who consider that there is an advantage in a funnel-shaped instrument will find that of Josef Gruber, of Vienna, preferable to Toynbee's, because the transition from the wide orifice, which dilates the cartilaginous part of the canal to its fullest extent, to the narrower, which exposes the osseous portion, is gradual, preventing the reflection of many rays at this point.

The speculum should be made of coin silver, for ordinary use. For the purpose of applying acids or caustics, one of hard rubber, porcelain, or glass, is to be preferred.

The instrument is warmed by the hand before being used, and then inserted gently and slowly into the meatus with the right hand, and held in position by the thumb and index finger of the left, which will keep the speculum under complete control, and enable the examiner to turn it so as to successively view the different parts of the whole surface of the membrana tympani, and at the same time to thoroughly straighten the canal by pushing up the upper wall of the canal.

It is very important that the speculum be held properly, for I have seen many a student, for the want of knowledge of this simple manipulation, labor for a long time without getting any view of the membrane, while the instrument was resting on some portion of the projecting wall of the meatus.

Having thus dilated the canal, the light may be thrown into it by means of the otoscope or reflector of Von Tröltsch, which as you see is a concave mirror of about three inches in diameter, having a focal distance of about six inches. Ordinary daylight is the best source of illumination for this mirror, although sun light, lamp light, gas light, that of a candle, or the reflection from a light colored wall, may each be made available in this method of examining the outer parts of the ear. This is a very simple process, although many make a difficult one of it. If we but use the skill we acquired in our juvenile days in throwing a dazzling light upon a desired object by means of a bit of broken mirror, it will serve us in good stead here. You observe that the mirror is held very lightly in the hand, and that the light is condensed upon any desired part by a very slight movement.

It is now almost universally conceded by the profession that this method is altogether the best that has

* Archiv für Ohrenheilkunde, B. I. S. 108.

* Aural Surgery, p. 60.

yet been suggested for the examination of the membrana tympani. It has the unequivocal endorsement of such otologists as James Hinton, of London, Schwartze, of Halle, Politzer and Joseph Gruber, of Vienna. It was first introduced to the profession at large by Professor Anton Von Tröltsch, in 1855, without previous knowledge that it had been suggested by others, although Dr. Hoffman, of Westphalia, had, as it seems, previously used an ordinary shaving mirror which he had perforated, for the examination of the ear. Professor Edward Jaeger, in his work on Cataract and Cataract Operations, suggests that his ophthalmoscope may be used with the concave mirror of four inches focal distance, for the examination of the external auditory canal. I have also been informed by numerous practitioners that they have often used the ophthalmoscopic mirror for examining the ear, but in spite of all these statements and the fact that Frank,* in his work on the Ear, gives a sketch of Hoffman's method, the credit of the use of the concave mirror for the examination of the ear as certainly belongs to Von Tröltsch, as the invention of the ophthalmoscope to Heinrich Helmholtz. It is somewhat surprising, however, that after the description which Frank gives in his text-book of Hoffman's method, and the drawing which he furnishes of the mirror, no attention was paid to the subject until Tröltsch revived it, without knowing of Hoffman's apparatus.

I introduced the use of the mirror, or otoscope as it should be called, into the practice of the New York Eye and Ear Infirmary, in 1863, where it soon superseded all other methods, and whence it has been very generally adopted in the United States.

It may be safely said that the adoption of this simple method of examination has done more for the scientific and practical study of aural disease, than any previous suggestion in this department. It has placed within the hands of every practitioner a method by which he may, in a few minutes, learn to examine a membrane which not a few physicians have never seen on the living subject.

I deem it unnecessary to describe the numerous methods which preceded that of Von Tröltsch, since they are fast becoming obsolete, and their description belongs rather to the history of otology than to a practical lecture. Even the method of examination by means of the direct rays of the sun, which held out so long in the hands of some practitioners, has at last given way to the use of the mirror and ordinary daylight.

It is sometimes convenient for the examiner and the patient to sit during the examination of the membrana tympani, and sometimes both may stand, or, as I usually examine, the patient may sit in a revolving chair, while the surgeon stands. The position of the patient will not be an important matter, so long as a good illumination is thrown into the canal. A forehead band is essential in making applications to the ear, and it is often convenient at other times. I cannot see any great advantage in the various complicated and expensive bands with ball and socket joints, but I use a simple screw attachment by which the mirror is fastened to the head band.

After having heard the patient's history, and having ascertained the amount of hearing, we may proceed to the examination of the pharynx and nares, and mouths of the Eustachian tubes. Although the profession has been a long time in coming to an appreciation of the fact, it is now generally conceded that the starting point of a large percentage of aural cases is in these parts.

* Practische Anleitung zur Erkenntniss und Behandlung der Ohrenkrankheiten, S. 49

The pharynx is best examined by turning the patient's face to an open window, and holding the tongue by means of a Turck's or a simple hinge speculum. This instrument is to be preferred to others, because the hand of the examiner does not obscure the view in its use. I often, however, use a reflector and ordinary daylight for an inspection of the pharynx, and in some respects it has its advantages over a direct illumination.

Some surgeons prefer to use artificial light, in examining the pharynx as well as other parts of the body, but I must prefer ordinary daylight for all examinations, when it is possible to use it, to that from any artificial source, or to the direct rays of the sun, since it seems to me that the natural hues are thus best observed. In the evening, of course, artificial light must be used. A reflector should then be employed. It is well to have it attached to a forehead band, as in the practice of rhinoscopy or pharyngoscopy which will be immediately described, but I may defer any description of what to observe on examining the fauces and pharynx until we come to speak of pharyngeal disease.

Rhinoscopy, as a practical method of examining the posterior nares, was suggested by that distinguished man Sir William Wilde in his very valuable treatise on aural surgery, having previously been spoken of by Bozzini, in a book published in Weimar in 1807.

Professor Czermak, of Prague, following up Turck's investigations on the larynx, was the first to actually introduce rhinoscopy into anything like general use, while Dr. Semeleder, Surgeon to the Gumpendorf Hospital in Vienna, and afterwards Surgeon to the Archduke Maximilian, while in Mexico, gave us the first full account of what was to be observed by this means, with some interesting cases. Voltolini, of Breslau, has also added much to our knowledge of the value of this means of diagnosis.

It is by no means necessary that every aural patient should be examined with the so-called rhinoscope, nor will the most accomplished manipulator be able to see the mouth of the Eustachian tubes in every case; but every one who attempts to treat the disease of the organ of hearing will find his diagnosis very often facilitated by an inspection of these parts, for example, when any unusual difficulty is experienced in entering the mouth of the Eustachian tube.

For the practice of rhinoscopy we need a lamp, or other source of artificial illumination, a small mirror, a tongue spatula, and a concave mirror that may be attached to a forehead band or placed on Semeleder's spectacle frame. Any brightly burning lamp, or a good Argand gas burner, will answer as a source of illumination.

Various kinds of costly apparatus for the purpose of condensing the light have been suggested and employed. If the surgeon be not satisfied with an ordinary lamp, perhaps the apparatus of Tobold will be found the best. In some instances, although not always, an instrument for holding back the uvula is required. Various appliances have been suggested for this purpose, nooses, hooks, spatulas, and so on, for any of which a surgeon of ordinary tact will find or provide a substitute when wanted.

It is above all things requisite that the patient should be tractable, and this tractability is perhaps more common than many surgeons imagine. Those who precede all their manipulations by an appeal to their patients to be very quiet, to be sure not to stir, not to mind a little pain, &c., and who at the same time make a great show of instruments, will generally have intractable and timid patients, but he who goes quietly at work, will find few patients that will not submit

with more or less patience to all such manipulations as are required in rhinoscopy, the use of the Eustachian catheter, and the like.

The patient being seated in front of the examiner, with a good light at one side, the mouth is well opened, and the tongue held by means of the depressor mentioned above. The surgeon should be careful in placing the tongue depressor, so that he may not cause undue pressure, which will produce gagging, and prevent all further manipulations. The light is then turned upon the pharynx by the head mirror so that it is accurately focussed, when the parts will be well illuminated.

Having secured a good view of the pharynx, uvula, and tonsils, the throat mirror is to be introduced. This instrument is first warmed by holding it for an instant over the flame of the lamp, its heat is then tested by placing it on the back of the head, after which it is gently and quickly introduced with its reflecting face upwards into the space between the soft palate and cavity of the posterior pharyngeal wall.

We may now turn, as the next step in our examination of a case of supposed aural disease, to the investigation of the condition of the Eustachian tube and cavity of the tympanum.

The means of this examination may be classified as follows:

I. The Eustachian Catheter.
II. Politzer's method.
III. Valsalva's method.
IV. Eustachian Bougies.

From the date of the promulgation of the use of the Eustachian catheter by the Post-master of Versailles, Guyot, until Toynbee's time, the views of the profession as regards the use of this instrument have varied exceedingly. At one time it was almost utterly rejected by the greater number of respectable practitioners, and at another considered by them as a panacea in the treatment of aural disease. The text-books of Wilde and Toynbee, which attached very little importance to the use of the Eustachian catheter, and which bear intrinsic evidence that the authors did not choose to be very familiar with the details of the proper employment of the instrument, probably did more than anything else to cause the profession in our own country to settle down, until a few years since, into the belief that the Eustachian catheter was always a useless and sometimes a dangerous instrument. I well remember the discouraging response of a prominent American practitioner, who had then had large experience in aural disease, to my statement, at the beginning of my active professional life, that I proposed to use the Eustachian catheter in the treatment of diseases of the ear, that he was glad to say that he never had used the instrument, and this was the common sentiment among our respectable practitioners until a very recent date. In regard to the change in sentiment in this regard, I need only say, that nearly every American surgeon who now treats aural disease, attaches much importance to the use of this instrument.

It is with it for the purpose of diagnosis that we have now to speak of the Eustachian catheter.

The material of which the instrument should be made may be either alloyed silver, or hard rubber. For diagnosis the silver catheter is to be preferred; for the injection of vapors, the hard rubber instrument is the only one to be used, because the heat will very soon make it impossible for a patient to bear the metal instrument in the nostril.

In the method of introduction, we proceed as did Archibald Cleland, an English surgeon, who, after Guyot, did the most to demonstrate the utility of entering the mouth of the Eustachian tube with an instrument, and we pass the catheter through the nostril. It is very difficult to imagine how the Versailles layman succeeded in introducing an instrument into the tube, through the mouth. He certainly did not use a catheter such as we now employ, and which I now show you. It is, as you see, a delicate tube of about six inches in length, with a slight curve at its extremity. A long and flexible catheter might, it is true, be passed behind the soft palate into the mouth of the tube, and this is probably the operation which Guyot demonstrated to the Paris Academicians, and which relieved his impairment of hearing by removing mucus from about the trumpet-shaped pharyngeal extremity of the canal.

The most practicable method of introducing a curved instrument into the mouth of the tube, is the one so clearly described by William Kramer, of Berlin.*

"The patient, if an adult, should be placed upon a chair with a back somewhat higher than usual, in order that the head may be supported; children should be placed with their back against a grown-up person, or, if reliance can be placed on their steadiness, against a wall, a table, or the like. After the patient has blown his nose, in order to moisten it, the catheter being thoroughly cleansed and warmed, the surgeon forces air through it, in order to assure himself that it is permeable. The head of the patient is then fixed with the left hand; the catheter is held with the thumb and finger of the right hand close to the funnel-shaped extremity, in such a manner that the ring attached is turned downward; the beak is placed in the nasal meatus, resting upon its floor close to its septum, with the convexity upwards. From this point it is pushed backwards with a very light hand, hugging as much as possible the floor of the nostril with continual elevation of the handle, till the instrument becomes horizontal and its extremity rests against the posterior wall of the pharynx.

"As the point of the beak arrives at the posterior wall of the pharynx, the funnel-shaped end of the catheter is to be raised a little above the horizontal line, and at the same time to be lightly withdrawn; the beak then sinks and rests upon the posterior wall of the soft palate, which at that instant contracts, performs a swallowing movement, raises itself, and when assisted by a quarter turn upon its axis from within outwards, lifts the beak of the instrument into the tube. Once in position the catheter should not cause the patient any inconvenience in speaking or swallowing."

Having introduced the catheter we may force air through it into the cavity of the tympanum by means of an air-bag whose nozzle should fit accurately into the funnel-shaped extremity of the nasal instrument. Air may also be blown in from the lungs of the examiner through a slender bit of rubber tubing, the tips of which are placed in the opening of the catheter and the mouth of the examiner respectively. The use of the rubber bag or syringe is to be preferred to this method as being a more cleanly and delicate one.

After air has been forced into the middle ear in this manner, the membrana tympani should again be examined by the surgeon, to determine if it has become injected, or if it has undergone any change in position; that is to say, he should see whether the current has actually reached the cavity of the tympanum or not.

Most authorities recommend the use of an instrument like the stethoscope, which is placed in the ear of the patient while the air is being driven through the tube, and they claim to be generally able to decide as

* The Aural Surgery of the Present Day. Translated by Henry Power, New Sydenham Society, London, 1868, p. 28.

to whether the air enters by the sound communicated through the tube. I am constrained to think that it is very difficult to distinguish sounds proceeding from the pharyngeal mouth of the tube from those produced in the cavity of the tympanum, and I do not, therefore, attach that importance to the use of the stethoscope in this manner, that has been usually ascribed to it; but I rely more upon the appearances of the membrane of the tympanum after the air has been forced in, with some attention also to the sensations of the patient, as to where the air is felt, than upon the use of the so-called *otoscope*—although I would be very far from wholly rejecting its employment or from denying its value.

The otoscope consists essentially of a piece of elastic tubing with a tip on each end, designed for the ear of the patient and that of the examiner respectively. It should not be called an otoscope, but rather the diagnostic tube, as Kramer suggests. The mirror for examining the ear should be called the otoscope, just as that for examining the fundus of the eye is named the ophthalmoscope, that for the throat, the laryngoscope, and so on.

The next means of examining the condition of the Eustachian tube and cavity of the tympanum is named, from the gentleman who suggested it, Politzer's method. It is a means of diagnosis and treatment of very great value, and we owe very much to Dr. Adam Politzer, of Vienna, for this method of sending air into the middle ear.

As you very well know, in the action of swallowing, the uvula rests upon the pharyngeal wall so as to shut off the upper from the lower pharyngeal space, and you remember that persons affected with cleft palate, who cannot thus separate these spaces, are greatly inconvenienced by the passage of solids and fluids upwards to the posterior nares. It was long ago shown that the pharyngeal orifice of the Eustachian tube opened during the swallowing process. Politzer's method takes advantage of these physiological facts in the following way: The person to be examined takes a little water in the mouth, while the surgeon places an air bag, with an appropriate nozzle, into one of the nostrils, closes the other with his finger and causes the patient to swallow the water at a given signal previously agreed upon, when he forces in the air by compressing the india-rubber bag. I usually count one, two, upon which the patient swallows.

The effect of the air thus forced in upon the membrana tympani is sometimes almost wonderful. A person who has become deaf to ordinary conversation sometimes in an instant again hears the familiar tones of human conversation, and feels himself in a new world. In such a case, mucus has usually obstructed the caliber of the tube, and is driven away by the current of air, which must of necessity go against the mouths of the tube, and will usually pass on into the middle ear. The patient's own testimony will usually, although not always, be conclusive as to whether the air entered the ear. The exceptional cases are those in which the Eustachian tube and the cavity of the tympanum have become so narrowed by a hypertrophy and sclerosis of the lining mucous membrane that only a very narrow, feeble current can enter. We shall have need to dwell upon the uses of Politzer's method when we are discussing the affections of the middle ear, and I therefore content myself with this description of it while we pass on to Valsalva's method of inflating the ear.

The distinguished anatomist Valsalva, who is well known to the profession by his treatise on the ear, suggested a means of inflating the membrana tympani which has become so popular as to be used by nearly two-thirds of all the patients who come to physicians on account of their ears. It has been recommended by generations of medical men as a means of curing affections of the ear, or of determining if the Eustachian tube be open, or the drumhead broken. Universal as is its use, I regard it is as almost a useless and not an entirely safe method. It consists essentially in forcing air into the ear, after a vigorous inspiration, the mouth and nostrils being closed. You observe when I inflate my ear by this method that I make a very great use of the muscles of the chest, and just in this lies the danger to the ear. This vigorous expansion of the chest causes a congestion of the ear which is sometimes more or less permanent, and materially harms the part by increasing the flow of blood to it. There is another objection to the frequent employment of the Valsalvian method or experiment, as it is sometimes styled. It soon ceases to have its momentary effect of increasing the hearing distance, which it does by rendering the membrane of the drum tenser, and the membrane becomes relaxed and flaccid, so that I have sometimes seen the membrana tympani of patients who have been in the daily and perhaps hourly habit of forcing air into the ears, flap to and fro like a valve, on the slightest movements of the nostrils.

This latter objection, of course, applies to Politzer's method if it be very frequently practised; but as it must be done by means of an apparatus, patients are not so apt to take it into their own hands.

I do not now advise the use of the Valsalvian method in the treatment of aural disease, and as a means of diagnosis it is in most cases vastly inferior to the use of the catheter or Politzer's method.

A word about the last-named means of examining the Eustachian tube, namely bougies. Filiform catgut bougies may sometimes be used with advantage in determining if the non-entrance of air by the catheter or Politzer's method be due to a stricture, but the need for their employment occurs only in a very limited number of cases, and when they are used great care and judgment are necessary. I merely mention the subject now, promising to allude to it again in this course.

You of course understand, gentlemen, that very many cases of aural disease, for example those of the external auditory canal, will not require the exhaustive examination that has just been detailed, yet many cases *will* require a systematic and complete observation, such as I have attempted to delineate, in order to a diagnosis which shall be exact and consequently valuable. The time thus consumed is sometimes considerable, but not as great in amount as you in listening to my remarks, and seeing the manipulations, will perhaps imagine. The details occupy more in description than in execution; and their strict performance will of themselves in time make you good observers of the phenomena of disease.

Morbid Pigmentation of the Skin.—Of the many syntheses and analyses taking place in the laboratory of the body, the formation and decomposition of the several pigments are not the least interesting. Many of these pigments are easily isolated; many of them, under the spectroscope, exhibit characteristic absorption bands. Including secondary products in the series, Dr. Wm. Frank Smith, of London (*Journ. Cutaneous Medicine*), finds it easy to form from them a long chromatic scale with indigo, from the urine at one extremity, and hæmato-crystalline at the other. *Hæmato-crystalline* is the most beautiful of these, and the most important of all.

Original Communications.

ANTERO-POSTERIOR SYMMETRY, WITH SPECIAL REFERENCE TO THE MUSCLES OF THE LIMBS.

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ARTICLE VII.

META-CARPAL AND -TARSAL MUSCLES, CONTINUED—EXTENSORS OF THE DIGITS.

We finished, in our last, consideration of three of the four sets of muscles there indicated, and come now to the fourth. This consists, in the fore limb, of the longer and shorter "extensor" (*flexor*) *carpi radialis;* in the hind, of the *peroneus longus* and *peroneus brevis*. These are held to be respectively antitypical. From indications afforded by those lower animals in which these muscles, in each limb, are more or less blended, the inference is, that they are dismemberments of one. But if so, they have been similarly differentiated, and it is as easy to homologize them individually as collectively; though they have, in each limb, been specialized, particularly in respect of the course and termination of the tendons of those of the foot.

In the forearm, it will be observed that the outer one of the two radial wrist-muscles is the larger, and the longer, from its higher origin; that it is also the more superficial. The relative length of the two is, I believe, very constantly preserved; but in many animals where both are distinct, the 'brevior' may be the larger. In man, the tendons pass side by side over the radial aspect of the back of the wrist, to be inserted into the bases of contiguous metacarpals (2d–3d). But the insertion varies: *e.g.*, in the *Ornithorhynchus*, where the muscle is single, it sends three tendons to as many metacarpals (2d–4th). The *peroneus longus* agrees with the 'longior' of the wrist, in most respects, and although it has not a femoral origin, in some animals its origin is protracted above, by the enormously developed spoon-shaped peronecranon. The *p. brevis* is shorter and less superficial; the tendons of both run together behind the external malleolus. This latter fact makes them actually extensors of the foot, whereas, to be homologous in function with the two radial wrist-muscles, they should be flexors; and this is their morphological office. The tendon of the *p. brevis* goes to the base of the fifth metatarsal; the other takes a singular course, not only in man, but in other animals. Besides its zigzag route by double reflection around malleolus and cuboid, it wanders across the sole to the opposite side. This is evidently a teleological modification; as is, indeed, the tendon being under the foot at all, instead of on the dorsum; the purpose fulfilled is evident. The diversity of termination of the muscles, in either limb, and in different animals, is no bar to the identification just made.

There is only one other metacarpal muscle of the forearm: this is the *extensor ossis metacarpi pollicis*. It does not lie conformably with any of the foregoing; apparently making one of a small separate set that also includes the extensors of the first and second pollical internodes. The determination of these muscles with regard to their posterior correlatives offers room for discussion, if not difficulty; we will therefore examine them more closely. The metacarpal extensor of the thumb arises median (both ulnar and radial), passes obliquely, and becomes wholly radial. The extensor primi internodii arises radial; the extensor secundi internodii, ulnar. Little, therefore, can be predicated from these data. The first-named is in relation, superficially and to the inner side, with the extensor communis digitorum, and extensor of the little finger; the other two have the same general surroundings.

Now, in the foot the only metatarsal muscle not yet examined is the *peroneus tertius*. In man, it is an inconsiderable muscle, appearing like an offset from the extensor digitorum longus, and is often abortive; it lies along the outer side of the latter, and its tendon goes to the base of the fifth metatarsal. It would seem at first sight to be exactly the correlative of the extensor ossis metacarpi pollicis—the first metacarpal corresponding, it will be remembered, with the fifth metatarsal. But there is an objection to this view. The peroneus tertius, so far from being a part of the extensor longus digitorum, as some anthropotomists consider it, is perfectly distinct; and, moreover, the base of the fifth metatarsal is not its true insertion. In those animals where it is normally developed it is a true fibular muscle; its tendon passes behind the external malleolus, and runs along the outer side of the foot, to the tip of the little toe; it is then seen to be the extensor longus proprius digiti minimi pedis. Under these conditions it would seem to be the correlative of the extensor secundi internodii pollicis; or perhaps to represent this and the extensor primi internodii together; for these two are doubtless dismemberments of one morphological integer. There are reasons, however, that incline me at present to the former opinion; the extensors of the pollical internodes being apparently of the same set with the extensor indicis, if not of a part with the latter; and these may be collectively better accounted for in another way, as I show hereafter. I therefore refer the peroneus tertius to the extensor ossis metacarpi pollicis.

Discussion of these muscles has already brought us to those that act upon the very distal segments—the phalanges. Lateral movement of digits, in either extremity, is mainly effected by short muscles about their bases; flexion and extension, with which alone we have to do at present, is accomplished mainly by muscles coming down from the forearm and leg. In the simplest possible condition of the terminal segments, these consist of one functional digit; the simplest mode of moving it would be by a muscle with one tendon coming down on either aspect to the last phalanx, one to straighten or "extend," the other to bend or "flex." When the digits are multiplied, this single tendon would be divided, and we should have a corresponding number, one for each digit, on both dorsal and palmar aspects. The next change would be differentiation of the muscular bodies themselves, to increase the mobility of individual digits, and consequently the pliability of the member. There is another addition; it is a *doubling* of the flexor and extensor sets; the second set going not to terminal, but to intermediate, phalanges. These modifications may be traced step by step, from almost the simplest condition above indicated, to the most complex, in man; in which species, moreover, the muscles of the fore and hind limbs are most highly specialized. There is yet another modification; the origins of digital flexors and extensors may be run up the forearm and leg to varying extent; or may be restricted to the foot; also, a homologous muscle in one species may not supply with tendons the same digits in another species. In spite of such diversity, the correlations of the muscles of the two extremities of the same species, and the special homologies of the muscles in different species,

may be determined with some success. In the former endeavor, that now engages us, we must remember that there are two systems of both flexors and extensors of the digits; one principal or original, always going to the tips of the digits; the other secondary or duplicate, only exceptionally reaching ungual segments, generally inserted into middle internodes, or variously attached to, and furthering the action of, the primary tendons. One is generally 'long,' the other generally 'short.' One is deep or 'profound,' the other superficial or 'sublime;' an arrangement best illustrated, because most closely adhered to, in the flexor set; where the muscles are respectively signalized by being "perforating" and "perforated," and by proceeding, definitely, one to the terminal, the other to the intermediate, phalanx of a digit. We commence with the *extensors*, and with those on the inner side of the two limbs: *i.e.*, ulnar and tibial, the lateral digits of which (little finger and great toe) are antitypes.

The *extensor minimi digiti* of the hand and the *extensor proprius pollicis* of the foot are obvious homotypes. This is indicated no less by their action upon correlated digits than by their relative position higher on the limb. The former lies rather deep-seated under and between the extensor communis digitorum and the "extensor" (*flexor*) carpi ulnaris; the latter lies deeply between the extensor longus digitorum and the tibialis anticus, which we have already seen to be the homotype of the carpi ulnaris. Both proceed to ungual phalanges. This identification is plain enough. We will only add, that if these be dismemberments of the common extensor, they have been differentiated in a perfectly symmetrical manner.

Next in order toward the outer side, we find in both limbs the great extensor that divides into several tendons for as many digits. In the forearm and leg, these muscles are symmetrically disposed; they occupy the same relative position, and indeed the same actual position, as far as the different shape of the two limbs will allow. Both run the whole length of the segment; both are superficial muscles; both subdivide, at wrist and ankle respectively; the tendons of both proceed, really, to ungual phalanges; but both are also virtually inserted into other phalanges by their extensive aponeurotic expansions, and fibrous bands. There is no doubt that these muscles are correlative. The slight disparity in the number of tendons into which they divide, and in the correspondences of the individual digits they supply, appears in the light of comparative anatomy of little or no consequence.

The fact, that although these muscles reach ungual segments and are principal extensors, they are virtually inserted also into intermediate segments, and are also superficial muscles, seems to indicate that they are *analogous* to the superficial perforated flexor tendons on the opposite aspects of their respective limbs.

Deep-seated on the forearm, and there and on the wrist covered by the extensor digitorum communis, lie the special muscles of the thumb and forefinger before mentioned. The two thumb extensors, as already stated, are probably dismemberments of one. They are not constant; the extensor primi internodii is frequently or usually wanting in lower animals; and in the first step from man—in the gorilla, for instance—the extensor secundi internodii has already blended with the extensor indicis to constitute a single double-tendoned muscle. On the front of the leg there is no muscle to correspond to these, either individually or collectively. But on the dorsum of the foot there is a considerable muscle, the *extensor brevis digitorum*, that supplies the deficiency.* Its restriction to the instep, instead of its running up the leg, is exactly analogous to the similar restriction of the flexor brevis digitorum to the sole. There can be little if any doubt that these special deep-seated digital extensors of the two limbs are correlatives; but more detailed identification is difficult. This seems to arise from the fact, that the great teleological modification of the thumb and great toe makes these digits functionally correspondent, while they are morphologically opposed, so that the muscles acting upon them are obscured by specialization to a corresponding degree. The clue to more particular identification of these muscles will probably be given by correct determination of the special homology of the peroneus tertius in different animals, including that of the long peroneal extensor of the toes of the opossum, as well as of the special extensor of the little toe of the same animal. At present, I refer the human peroneus tertius to the extensor ossis metacarpi pollicis, and the extensor brevis digitorum pedis to the special extensors of the thumb and index. Still, in view of the fact that what is to all appearance the peroneus tertius in lower animals becomes the proper extensor of the little toe, it may be necessary to refer it, in man, to one or the other, or both, of the extensors of the pollical internodes, and even to include there also the extensor indicis. In such determination, however, both the extensor ossis metacarpi pollicis and the extensor brevis digitorum pedis would be left without visible correlative in the opposite limb: for certainly they do not represent each other.

NOTES ON INTERMITTENT FEVER.

By H. S. KILBOURNE, M.D.,

FORT SILL, I. T.

The management of some hundreds of intermittents in a malarious district in the South-west, in which the milder forms of intermittent principally prevail, has convinced me of the correctness of the following observations:

That there is a notable tendency in most intermittents to recurrence of the paroxysm on the seventh day from date of the last attack, and on some multiple of seven, as far as the twenty-first.

That nervous depression and indigestion, occurring in persons subject to intermittent, are exciting causes—that is to say, these conditions will precipitate an attack, when one is continually under the influence of miasma, which, without the aid of them, would not occur. I admit herein the difficulty of discrimination between the above conditions and those disorders of innervation and digestion which precede and accompany an ague. I had a case in which the disturbance that follows indulgence in the use of alcoholic liquors was almost invariably followed by an ague.

* This view is corroborated by the singular disposition of the homologous muscles in the opossum's foot. In this animal, the common long extensor of the toes comes down from the front of the leg much as in man, with the same general distribution. But on the instep there is only a remnant of muscle to represent an extensor brevis digitorum; it sends one delicate tendon to the great toe; sometimes another to the second toe. To atone for this defect, there is a large muscle, that I take to be homologous with the extensor brevis digitorum of man. It is one of the peroneal group, as the ext. brevis of man would be if prolonged up the leg in the direction of its fibres. It comes down behind the external malleolus, gains the instep, and splits into three or four tendons, that supply as many of the lesser toes.—the great toe being already provided for by the fasciculus upon the instep. The objection is, that the fasciculus upon the instep may be the whole extensor brevis digitorum, and the long peroneal extensor be consequently something else; perhaps true peroneus tertius; in which event, other identifications than those above proposed will be required.

I have another, in which the free use of cigars is often followed by a paroxysm.

That physical vigor does not prevent the invasion of malarial disorders, but it has power to resist and delay the invasion.

That various hygienic measures, such as avoidance of night air, cold bathing, and active exercise, have failed to be preventive, but that these have appeared to delay the invasion.

That quinine in small daily doses (gr. j. ad gr. v.) is not a reliable prophylactic.

That quinine is generally an efficient prophylactic when administered several hours before the expected attack, in quantities of ten grains or more.

That in some cases of chronic intermittent with malarial cachexia, quinine in large doses (℈j. ad ℈ij.) will fail to arrest the paroxysm. That in these latter cases, a course of the liq. potassæ arsenitis and iron is more efficacious than quinine.

That in a certain proportion of cases all treatment will fail and a change of climate alone will effect a cure.

The above observations lead me to the following conclusions, theoretical and practical:—First, That the specific miasmatic cause of intermittents is accumulated in the bodies of every one within its influence, until what is termed the point of saturation is reached—when an ague results. That the amount of malaria retained in the body determines the attack, and that this amount may vary with the physical condition of each individual.

That the ague is the effort of nature to eliminate the miasma.

That the miasma is a depression of the vital power, and that any agent which lowers the vitality, pari passu, lowers the point of saturation and hastens an attack.

I infer also that quinine has the power to prevent and cure an ague only when taken in quantity sufficient to produce its specific effect, *i.e.*, cinchonism.

That this power in certain cases is lost. Finally, that hygienic measures are useful in delaying the invasion of ague, but cannot be relied on as preventive when miasma is very active.

I advocate the employment of the hygienic measures indicated, and also the use of tonics and stimulants, especially iron, wine, ale, coffee, and tea, in malarious regions. I believe that malaria is especially active in the early morning and evening, and at such times should not be encountered without preparation.

An outline of the treatment pursued is as follows:—During the cold stage, a few drops of chloroform, or Hoffman's anodyne on sugar. During the hot stage, an effervescent saline laxative, in broken doses, or pulv. doveri, gr. x—the former is grateful and refreshing. During the sweating nothing is given. After the subsidence of the paroxysm, quinine, ℈ j. in a single dose, in the form most agreeable to the patient. Sponging with cool or tepid water in second and third stages. In a case of congestive remittent, when nothing was retained by the stomach or rectum, quinine gr. x et morph. sulph. gr. ⅛ was administered hypodermically with success.

Liqueur de Villatto.—M. Nélaton (*Union Med.*) recommends the subjoined modification of the liqueur de villatto as an injection to be thrown into the fistulous tracts connected with carious bone: Acetic acid, 100 parts; sulphate of copper and sulphate of zinc, of each 10 parts; acetate of lead, 5 parts. The solution requires shaking before using it, on account of the considerable precipitate.

DISLOCATION OF THE HEAD OF THE RADIUS BACKWARDS AND OUTWARDS.

By JOHN N. BEEKMAN, M.D.,

SURGEON TO THE N. Y. DISPENSARY.

John A——, age three and a half years, was brought to the Dispensary on May 3d, 1870, by his parents, who stated that a short time previous, while at play, he was thrown down by a boy, who also fell upon him; but in what position he fell they are unable to state.

Upon examination the left forearm was found slightly flexed, semi-pronated and deflected outwards, while the anterior aspect of the joint was much broader than that of the other side. The swelling was moderate, and complete supination impossible. On examining the elbow-joint, the head of the radius was distinctly felt behind and towards the outer side of the external condyle of the os brachii, the depression on its extremity being quite distinct. No fracture could be detected.

The dislocation was reduced in the following manner: Slightly flexing the forearm, and at the same time making traction upon it, pressure was made upon the head of the radius in a direction downwards and inwards with the thumb, when it slipped into its place with a distinct jerk, supination immediately taking place. The hand and arm were then bandaged, and a straight anterior splint applied. On May 10, the joint was found still quite tender, but the swelling was subsiding, and after slight passive motion had been made the splint was re-applied. On May 17, the swelling and tenderness had both diminished considerably, the splint was discontinued, and passive motion made every other day.

The joint is still somewhat stiff, but under frictions and passive motion continues to improve.

18 East 20th St., N. Y.

Progress of Medical Science.

The Febrifuge Action of Cold Water.—James S. Bailey, M.D., Albany, N. Y. (*Buffalo Med. & Surg. Journal*), asserts that cold water internally, under proper restrictions, is applicable to every stage and form of disease. If it acts otherwise, such cases are the exception, not the rule.

Water as a therapeutic may be abused—every remedy is liable to misuse—but the thoughtful physician will not attempt to ride this as a hobby to the exclusion of reason and common sense.

There is nothing in fever which acts so charmingly; it not only allays thirst, but unlocks the secretions, causing copious perspirations, reducing the temperature of the body, and equalizing the circulation in a degree which nothing else so effectively accomplishes.

The practice of causing a patient with fever to abstain from the use of water is cruel in the extreme, and very unnecessary; a full draught of cold water will not produce congestion of the stomach and bowels, but will produce the effects just described. The absorbents in fever are not so active as in health, and the water in contact with the fevered surface of the stomach soon becomes heated and is rejected, which is followed by relaxation and a determination of the blood to the surface, which is a desirable result.

The Discovery of the Arrest of Catalytic Action by Bisulphite of Soda.—In 1861, Dr. Guiseppe Polli, of Milan, accepting the zymotic theory a

true, discovered by experiments that the bisulphite of soda was quite as decided as the sulphurous acid itself in checking fermentation, and established therefrom two great facts; first, that the bisulphite of soda is carried into the circulation; and secondly, that the presence of these salts in the liquids and solids of the body retards putrefactive fermentation for a lengthened period.—*Pacific Med. & Surg. Journal.*

A NEW VESICANT.—In a recent number of the *Journal de Chimie Médicale*, M. Delpech calls attention to the defects of the ordinary preparations of cantharides; the proportion of the active agent, or cantharidin, varying, the presence of fatty or oily substances sometimes causing the absorption of a dangerous poison, and the resin or turpentine employed in the composition of the plaster being an unnecessary irritant. In place of this, he recommends the cantharidinate of potash, which is of a very stable composition, has no odor, and possesses a vesicant action in a high degree. He recommends as the best formula for the plaster: Gelatin, 2.09 parts; water, 10 parts; alcohol, 10 parts; cantharidinate of potash, 0.20; glycerine, 9.5 parts. The mass should be equally spread on thin gutta-percha, a definite quantity being present in each square inch.—*Lancet.*

TREATMENT OF OBESITY.—The *Tribune Médicale* of May 29th, 1870, mentions the case of a medical student of Paris, who, at the age of twenty-two, consulted Dr. Labat, in July, 1869, for an inconvenient accumulation of fat. Weight, 310 pounds; abdominal circumference about one yard and a half, and all the concomitant distressing symptoms. The patient was sent to Marienbad, in Bohemia, where he drank the waters, took reducing pills (with an alkaline base, to saponify the fat), had vapor baths followed by rubbing, douches, frictions with a brush moistened with vinegar of pine-cone, and wet cloths on the abdomen on going to bed. This was carried on from the 20th of July to the 31st of August—viz., 41 days. He had then lost 34 pounds (Austrian weights being heavier than French). At Paris the Marienbad waters and vapor baths were continued for a fortnight. The patient then commenced the grape treatment, both in the French capital and at Fontainebleau, with a few vapor baths. Weight on leaving off the treatment, Nov. 10th, 257 pounds; abdominal circumference about 1 yard 7 inches.

TUBERCULOSIS AND CANCER.—The correlation of these diseases has been for some time past the object of anxious thought on the part of medical men. Facts have so distinctly obtruded themselves on the attention of observers that the mere collection of cases will go far to establish a relationship between tuberculosis and cancer. Among the most intelligent physicians who have clinically studied the subject is Dr. Burdel, of Vierzon, in France. On the 17th of May last he read a paper before the Academy of Medicine of Paris, in which it is stated that the diseases have been observed in more than one hundred families, both by the author and his father, to whose practice he has succeeded. It was found that parents affected with cancer had children who presented the tubercular diathesis. Dr. Burdel's memoir is remarkable, not only for the care with which the statistics were collected, but also for the sober manner in which theorizing is attempted. The facts speak so forcibly that the profession cannot fail to be struck by them. It would be well if one of our societies would next winter appoint a committee to receive reports from medical men all over the country, respecting their experience on this important subject. —*Lancet.*

TETANUS.—Dr. David W. Yandell, of Louisville, Ky. (*The Am. Practitioner*), lays down the following conclusions in regard to tetanus:—

1st. That traumatic tetanus occurs in males in the proportion of four to one, and tends to recovery oftenest in females.

2d. That tetanus is most fatal in persons under ten years of age; that it is least fatal between ten and twenty years.

3d. That traumatic tetanus usually supervenes between four and nine days after the injury, and these cases represent the largest mortality.

4th. Recoveries from traumatic tetanus have been usually in cases in which the disease occurs subsequent to nine days after the injury.

5th. When the symptoms last fourteen days, recovery is the rule and death the exception, *apparently independent of the treatment.*

6th. Of all the forms of tetanus, that appearing in the puerperal state is the most fatal.

7th. That chloroform, up to this time, has yielded the largest percentage of cures in acute tetanus.

8th. The true test of a remedy for tetanus is its influence on the history of the disease. (*a*) Does it cure cases in which the disease has set in previous to the ninth day? (*b*) Does it fail in cases whose duration exceeds fourteen days?

9th. That no agent, tried by these tests, has yet established its claims as a true remedy for tetanus.

OZÆNA.—Trousseau's favorite injections in ozæna were: No. 1. chlorate of potash, one part; water, one hundred parts. No. 2, nitrate of silver, five parts; distilled water, one hundred parts. No. 3, sulphate of copper or zinc, five parts; distilled water, one hundred parts.—*Lectures on Clin. Medicine.*

CHLORIDE OF AMMONIUM IN HEPATITIS AND HEPATIC ABSCESS.—W. Stewart, M.D., Surg. in an English Regt. in India (*The Madras Monthly Jour. Med. Science*), states that in cases of hepatitis, where the peculiar symptoms pointing to abscess, either impending or already formed, are manifested, the *chloride of ammonium* should be administered in doses of grs. xx., morning and evening, noting carefully its effects, which are striking and remarkably regular in the order of their occurrence. Chloride of ammonium being itself a general stimulant, does away with the necessity for the employment of alcoholic stimulants in the considerable quantities otherwise required, and, unlike them, in addition to causing the absorption of pus, exercises a specific therapeutic action on the liver.

A remedy which is at once found to possess the several properties of a stimulant of the capillary circulation, general and special, which is at the same time a powerful diuretic and diaphoretic, and withal anodyne, cannot, he thinks, but exercise a remarkable influence on the processes of nutrition and absorption, secretion and excretion. Three cases are published which were cured with this remedy: the first, a case of well marked *acute hepatitis*, the second one of *suppurative hepatitis*, and the third one of *chronic hepatitis.*

SNAKE-BITE TREATED WITH POTASH AND BRANDY.—John Short, M.D., Supt.-Genl. of Vaccination, Madras Presidency (*Madras Monthly Journ. Med. Science*), relies upon liquor potassæ and brandy internally, and a hot or cold potash bath (liquor potassæ ʒ ij. to the gallon of water), in conjunction with an early ligature and scarification, in cases of bites from the venomous *cobra di capello.* In one of his published cases the liquor potassæ was given, in doses from xv. to xxx. ɱ with brandy, every 15 or 20 minutes for six hours. A

warm potash bath was occasionally resorted to. The patient recovered.

Malignant Diseases of the Uterus.—We glean from Prof. Fordyce Barker's monograph on "Some Clinical Observations on the Malignant Diseases of the Uterus" the following facts: It is, relatively, as often met with in the country as the city. There were in England from 1838 to 1842, 3,000 deaths from cancer of the uterus. In France, in the department of the Seine, from the year 1830 to 1835, there were 2,480 deaths from the same cause. From the mortuary records of New York City, there were 431 deaths from cancer of the uterus in the ten years ending Dec. 31, 1865. There were 298 deaths during the three succeeding years, and the first 9 months of 1869.

The Parisian mortality from this cause exceeded that of New York in the proportion of 413 to 79 annually in the years compared.

The African race are comparatively exempt from the disease.

His record of the comparative frequency of the forms of malignant disease is as follows: Cancer of the uterus, 487; Cauliflower excrescence, 18; Corroding ulcer, 6; Recurrent fibroid, 3.

Origin of Catarrhal Conjunctivitis.—Prof. L. Gosselin, Surgeon to L'Hôpital de la Charité, of Paris, publishes an article, on *the Origin by Contagion of Catarrhal Conjunctivitis.* (*Arch. Générales de Méd.*, Apr., 1869), in which he arrives at the conclusion that the different forms of conjunctivitis (catarrhal, purulent, and granular) are susceptible of transmission not only by contact, but by miasms emanating from diseased eyes and spreading in the atmosphere. One form of conjunctivitis may produce, in another eye, either the same, or some other form.

Syphilitic Amaurosis.—Galezowski, in a paper on *Syphilitic Amaurosis*, read before the Academie de Méd. of Paris, asserts that *retinitis pigmentosa* very frequently results from syphilitic choroiditis, and that the congenital retinitis pigmentosa is a hereditary syphilitic affection (*Arch. Gén. Méd.*, Apr. 1869, p. 487). This assertion is at variance with all authors, and, to say the least, exaggerated.

Button Scurvy.—Dr. H. S. Purdon (*Journ. of Cutaneous Medicine*), in 1868, met with a case in a Belfast lane bearing a great resemblance to *button scurvy*, which was very prevalent in Ireland during the famine years of 1847–8–9. The cutaneous disease was characterized by an eruption of isolated excrescences—best marked on the arms—presenting a convex surface somewhat resembling an ordinary button, and about the size of a farthing. This disease was called by Burgess, *Ecphyma globulus.*

The Cockleburr as a Styptic.—Dr. A. H. McFall. of Plantersville, Texas (*Med. and Surg. Reporter*), in an operation for the removal of a Minié ball from the neck, which was partly encysted and lying immediately under the bifurcation of the left carotid artery, the result of a gunshot wound of several months' standing, had his attention called by Dr. Allen, of Hempstead, Texas, to the use of the expressed juice of the *cockleburr* leaves. The hemorrhage was rather profuse for a few seconds, but was instantly and permanently suppressed on the application of the above preparation.

He has used it since in two minor operations, and believes it to be one of the very best hæmostatics, the cheapest and most easily obtained.

Mode of Preparation.—Take the fresh leaves, and, after being thoroughly pounded, put them into a strong cloth, and wring out the juice into a cup or other vessel, and apply to the wounds with a sponge.

In conclusion, he inquires whether it may not be equally efficient in *post-partum hemorrhage.*

Placental Attachment.—Rigby has found the placental formation and attachment far oftener on the left side. Lange, on the right. In 188 cases, Grenser found the placental implantation 77 times on the anterior, and 93 times on the posterior wall. Martin found the placental seat in 63 cases of recently dead puerperal women, 10 times entirely on the anterior wall, 6 times anteriorly and to the right, and 8 times anteriorly and to the left; 15 times wholly posteriorly; 5 times entirely on the right wall, and twice entirely on the left. —*Am. Jour of Obstetrics.*

Fœtal Placenta.—The fœtal portion of each cotyledon consists of branching villosities of the chorion, and these branches and branchlets are given off at every possible angle from the main trunks. The final terminations of the ramifications, be they pyriform, cylindrical, fusiform, pedunculate, or drawn out into threads, are always free and unattached.

By injecting the umbilical arteries and veins with different colored materials, and by corroding away the maternal placenta, Hyrtl has demonstrated these facts in the most wonderfully beautiful manner.— *Whittaker's Prize Essay.*

Placentæ of Multiple Births.—In 14,880 births in the Vienna Clinic, Prof. Späth (*Am. Jour. of Obstetrics*) observed twins 185 times (1: 80); 135 of these were multiparæ, 50 primiparæ. There were found in 125 cases—

Separate placentæ, with two amnions and two chorions, 49 times.

Adherent placentæ, with two amnions and two chorions, 46 times.

Adherent placentæ, with two amnions and one chorion, 28 times.

Adherent placentæ, with one amnion and one chorion, 2 times.

Fatty Degeneration of the Placenta.—The placenta, as is well known, possesses no nerves, and, according to Jossinsky, all the uterine glands in the mature placenta, both with and without epithelium, show a pretty strong fatty degeneration.—*Am. Jour. of Obstetrics.*

The Administration of Chloroform in Parturition.—When chloroform is used in parturition, beyond the stage at which it produces simple drunkenness, and indifference to pain, Rev. Samuel Haughton, M.D., D.C.L. (*The Dub. Quar. Jour. Med. Science*), affirms it is positively injurious; for it destroys the action of the voluntary abdominal muscles, which constitute the chief part of the force employed in difficult labors. Hence, the muscular tissue of the uterus is left to overcome an obstacle beyond its strength, and without the aid that nature intended to be given by the abdominal muscles. The result is that labor ceases until consciousness returns, and enables the ill-treated woman to avail herself of the apparatus of abdominal muscles provided by nature for her use.

In these remarks he confines himself altogether to the physical aspects of the use of chloroform in labor; and forbears to express an opinion as to the moral effects likely to be produced by the exhibition of an intoxicating agent, administered merely for the luxurious purpose of deadening the pain of the exercise of a purely natural physiological function.

The Frequency of Hæmatocele.—Dr. R. Olshausen

(*Am. Jour. of Obstetrics*) believes that hæmatocele is of far more frequent occurrence than is generally believed. During the last two years 769 gynæcological cases were observed in the Polyclinic of Halle, and among these 29 cases of hæmatocele, equal to 4 per cent.

Syffert mentions 66 among 1,272 patients, *i.e.*, 5 per cent.

Pyæmia.—In a communication to the Academy of Medicine of Paris, Dr. Guérin disputes the prevailing theory as to the mode of development of pyæmia, viz., the result of an absorption of decomposing secretions, or of phlebitis. He believes pyæmia is a kind of typhus, a surgical typhus, excited by miasmatic emanations.—*Med. and Surg. Reporter.*

Extract of Calabar Bean.—J. B. Enz (*The Pharmacist*) recommends the following process for preparing this extract: Reduce the bean to a moderately fine powder, and macerate in alcohol, sp. gr. .830, for ten days; then transfer the powder to a percolator, and pass through alcohol until the percolate becomes colorless. Mix the tincture obtained by maceration with the percolate, distil off the alcohol, and evaporate the residue over a water-bath to the proper consistence. The yield of extract is about two per cent.

Syrup of Ipecac.—As there has been considerable difficulty in preparing a good syrup of ipecac that will keep without deterioration, Luther E. Sale (*The Pharmacist*) sends the subjoined excellent formula:—

℞ Fluid Extract of Ipecac, f℥ xvijss; Granulated Sugar, ℥ xxxij; Water, f℥ xvj.

Pour the fluid extract of ipecac on the sugar, in a shallow evaporating vessel, and set aside in a warm place to dry; when dry, add the water, dissolve the sugar with aid of gentle heat, and strain. The syrup thus prepared will measure thirty-five fluid ounces, and will correspond in strength with the officinal. This process yields a handsome syrup.

Treatment of Iritis.—The therapeutic indications are:—1st. Removal of the causes that are still somewhat active.—2d. Keeping away all sources of injury which may maintain or even increase the inflammatory process.—3d. Diminution and limitation of the proliferation of tissue, and a reduction to the normal mean of the increased nutrition.—4th. Prevention of the possible dangers from iritic neoplastic formations.—5th. In case this latter does not succeed, the direct removal or lessening of the disturbance of function caused by them.—*Stellwag on the Eye.*

Microscopical Characters of the Blood in Relapsing Fever.—H. C. Hand, M.D., resident physician in the Philadelphia Hospital (*New York Med. Jour.*), publishes some interesting observations on the blood of relapsing fever, based on a careful study of 30 cases. The most constant and important change appears to be a granular condition of the red corpuscles, as if the coloring matter were breaking up its uniform distribution and becoming collected in patches; often this granulation is most marked around the circumference of the corpuscles, giving to many of them a false appearance of crenation, and increasing it in those which are really so.

The next most important change is crenation, which occurs both in connection with the granular condition and independently of it, and in various degrees, from a mere waviness of edge to complete deformity.

The next change to be noticed is, increase of the white corpuscles. In the only microscopical observations on this subject which he has been able to find, a report of twelve cases by Dr. Cormack and Professor Allan Thompson, in 1843, it is stated that the white corpuscles are greatly increased. In only three of his cases has it been so; but the red corpuscles in their granular condition bear no inconsiderable resemblance to white. It is possible that they may have been mistaken for such.

Dr. Cormack thought the alteration of the blood could be detected a day or two before the fever commenced. That it is so, is extremely probable; certain it is that the change occurs very early.

Indeed, he is inclined to go further, and state that by living in a contaminated atmosphere the blood becomes changed without fever necessarily following. This assertion is based on the last four cases of the table, who were resident physicians of the hospital, and, of course, living in air loaded with fever poison. Their blood appeared in almost as bad a condition as some of those suffering with the fever, although none of those examined have had more than slight indisposition. Therefore, if in any case we find these blood-changes, we should be liable to err in predicting the fever about to supervene; but, if the corpuscles are normal, he thinks we should be perfectly safe in predicting immunity from it.

In most of his cases the tendency to the formation of rouleaux was very decided, showing coagulability to be little impaired. To conclude, the fever poison alters the blood before it produces any symptoms; the alteration becomes somewhat more extensive as the disease progresses, and continues for a length of time after pyrexia has disappeared, and only debility and anæmia remain.

Skin Diseases Prevalent in New England.—Dr. Howard F. Damon, of Boston. Mass., writes that furunculus, zoster, urticaria, and erysipelas, are all far more prevalent and severe in New England than the same forms of disease as usually described by English, French, or German writers.

Cases of Diseases of the Ear.—E. L. Holmes, M.D., Prof. of Ophthalmology and Otology, Rush Med. College (*Chicago Med. Journal*), thinks it well established, that of the aggregate number of patients requiring medical aid, about one-twelfth suffer from some disease of the eye. The average proportion of patients with aural diseases is about one-fifth of the number of patients with diseases of the eye.

In his own experience, during fourteen years in private and hospital practice, the aggregate number of eye cases has been 8,982; of ear cases, 1,735. Of this number 1,076 were treated in private, and 659 in dispensary practice. He has observed that relatively a smaller number of indigent patients were affected with diseases of the ear than of the eye.

Not a single case has been observed by him, in which he was confident symptoms of inflammation were confined to the membrana tympani alone, independent of disease of the middle ear or external meatus.

Out of the above 1,735 cases, chronic inflammation, middle ear, occurred in 796 cases; perforation of memb. tympani, otorrhœa, 321 times.

A Case of Acute Yellow Atrophy of the Liver.—Dr. A. Porter, Civil Surgeon, Akola (*Madras Monthly Jour. Med. Science*), reports a case of this rare disease, which occurred during the last rainy season in a robust, healthy-looking young man, aged 22 years, of intemperate habits, a prisoner in the Akola Jail. The intense jaundice, wild delirium quickly passing into coma, and speedy termination of the disease in death, with the post-mortem appearances, sufficiently indicate, he thinks, the correctness of the diagnosis, and

this, notwithstanding the failure to detect in the liver and kidneys the pathognomonic constituents, *leucine* and *tyrosine*. Of the various causes usually assigned for this disease, malaria and intemperance were the only ones present in this case. There was no history of syphilis. The *liver* was small, flaccid, weight 29 oz., and the substance of rhubarb-yellow color, made up of fat granules and cells.

Cholera in Southern India.—The year 1866 was one of very general distribution of cholera throughout the Madras Presidency. Out of a total of 586,228 deaths in the civil population, 197,955 were due to cholera, giving a proportion of cholera mortality of rather more than 35 per cent. of the whole.

The proportion of cholera mortality in the European army was a little more than 12 per cent. of the whole; of the native army, 27 per cent. of the whole deaths.

Preparation of Pyro-Tartaric Acid.—Béchamp (*The American Chemist*) first thoroughly deprives of its water of crystallization the tartaric acid to be submitted to dry distillation; next mixes the material with previously ignited pumice-stone, and submits that mixture to dry distillation. In this way 1,600 grms. of tartaric acid yield 325 grms. of crude, but crystalline, pyro-acid, which is best purified by means of alcohol of 90 per cent.

On Glaucopyrite.—According to Dr. F. Sandberger, this mineral, newly discovered, has a specific gravity of 7.181; its formula is—

$$FeS_2 + 12 \begin{Bmatrix} Fe \\ (Co) \\ (Cu) \end{Bmatrix} \begin{Bmatrix} As_2 \\ (Sb)_2 \end{Bmatrix}.$$

It contains in 100 parts, sulphur, 2.36; arsenic, 66.90; antimony, 3.59; iron, 21.38; cobalt, 4.67; copper, 1.14.—*The Am. Chemist.*

Treatment of Snake-Bite by the Injection of Liquid Ammonia.—E. H. Hall, M.D. (*Cal. Med. Gazette*), states that Prof. Halford's treatment of snake-bite by the injection of liquid ammonia has steadily gained ground, and is now recognized by the profession in Australia as a reliable cure; and the colonists there are under great obligations to the doctor for his researches, as the world at large is to Dr. Jenner for the introduction of vaccination.

With respect to the operation, he has found from experience that the injection may be made into any vein, and not necessarily near the spot where the bite was inflicted.

The instrument used by him is lancet-pointed, similar in size to the hypodermic needle, but much stronger; with the piston packed with India-rubber to meet the inequalities of the glass tube, so as to preclude the possibility of injecting atmosphere. The ammonia employed is usually liq. am. fortiss., of the strength .882, mixed in proportion of one to three of water. The vein selected, with the superficial fascia, is seized between the finger and thumb of the left hand, a lancet pushed through immediately beneath, so as to form a basis to steady the vein against the force employed in inserting the point of the syringe, which is to be pressed in to the end of the tube, to prevent the escape of the liquid, and the piston gently pushed down until about half a drachm has been injected. A wet compress of lint is then placed over the wound and bandaged. He has had three opportunities of fairly testing this treatment, and on each occasion it was successful, and left no doubt whatever of its extraordinary efficacy.

A Remarkable Case of Spermatorrhœa: Castration.—Dr. Edward Cass, of Dresden, Ohio (*Med. & Surg. Reporter*), relates the following singular case:—A young man, sixteen years of age, shoemaker, discovered for the first time one afternoon, while busy at his work, a whitish, watery discharge from the urethra. Periodically it occurred every day while at work. His health became seriously involved. Years passed on until he was thirty years of age, when he applied to the leading surgeons of Cincinnati, who were powerless to help his condition. Cauterization of the membranous portion of the urethra was performed, and Lallemand's treatment followed strictly. Castration was performed, and the patient, with the prospect of recovery, was quite cheerful and satisfied with his emasculated condition.

A year elapsed, when the *sans-testes* patient reported that he was troubled with vigorous erections, coupled with a desire for female society. These conditions had been strangers to him all his life until now. He entertained the idea of matrimony, and had in view a young maid who he knew was pleased with him. He was told to deceive no one, but first tell of his physical deficiency. He did so, and being accepted on understanding grounds, was married. No person, for a moment, would have accused him of bringing on his abnormal condition. It is remarkable that this man who, all his previous life, was lost to virile power, should, when emasculated, have venereal propensity. All physiologists revert to sperm as the controlling and exciting cause of such animal propensities; but when sperm is absent, and especially its absence restores a lost *tone*, this is unrecorded and unaccountable.

Fragment of a Knife-Blade Lodged in Chest Twelve Years, and Finally Coughed Up.—Dr. J. F. Snyder, of Virginia, Cass co., Ill. (*Chicago Med. Examiner*), recently reported a case where a man, sixty years of age, twelve years previously in a street fight was "stabbed in the back, about the lower point of the shoulder-blade," but as the wound gave him no pain and soon healed, he had no suspicion that any part of the blade had remained embedded in his body.

The patient recently applied for treatment on account of a troublesome cough. The diagnosis suggested was *circumscribed pneumonia*. The ordinary treatment was advised, and for four weeks the case continued without change, save a gradual aggravation of all the symptoms, increased dyspnœa, and free expectoration, when one day, in a hard paroxysm of coughing, the patient threw up from the right bronchia an ounce or two of pus and a hard substance, which attracted his attention by the force with which it struck the floor. On examining the substance, it proved to be the point of a knife-blade, an inch in length, half an inch in width, and weighing half a drachm. The fragment of steel was much corroded and pitted by oxidation. During the last twelve years he had occasional twinges of pain under the right shoulder-blade, which were ascribed to rheumatism. The patient rapidly recovered his health.

The points of interest in this case are, 1st. That such a foreign body should have so long remained fastened in the bone (either the scapula or the rib) without causing necrosis or other disturbance, save occasional slight pains, attributed by the patient to rheumatism. 2dly. That supposing the knife had passed *through* the bone at once, or had penetrated the thoracic cavity, between the ribs, it failed at the time to excite severe inflammation and produce exhaustive suppuration. And 3dly. That having penetrated the substance of the lung, into the brachia, by adhesive inflammation and suppuration, it should have been so easily expelled through the *thyro-arytenoid ligaments* and the *glottis*.

THE MEDICAL RECORD.

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New York, November 1, 1870.

YELLOW FEVER AND THE VAGARIES OF THE BOARD OF HEALTH.

FROM time immemorial it has been the fate of public functionaries to incur a larger share of public reproach than has been justly their due. To this rule our Board of Health is not, perhaps, an exception. Having, as a profession, an interest in the proper sanitary care of the community, it seems not only appropriate, but natural, that we should, when an occasion demands it, call such a board to special account for sins of omission and of commission.

We have no disposition to be censorious, but we cannot, first of all, refrain from suggesting to the gentlemen who reflect the medical opinions of the Board that obvious truth or plain inference, and not unsubstantial theories for the gratification of personal spleen, should be the basis of their official acts and declarations.

This suggestion has been evoked by the late proceedings of the Sanitary Committee of the Board. We acknowledge that our information is derived from occasional reports furnished by the morning journals, and may therefore be erroneous; but as the Board is essentially a "close corporation," and, as guardian of the public health, often unapproachable and jealous of much that is locked within its capacious bosom, we must fain satisfy our appetite with the morsels that have generously been thrown into the public crib. But to the point:—

Yellow fever appeared on Governor's Island about August 14th. The season had been remarkably propitious for its development, and it seems from the reports of the Sanitary Committee that the other concomitant circumstances for its evolution were present within the infected territory, restricted, as is frequently characteristic of such outbreaks, to a limited portion of the island. Dr. Page, the surgeon in charge of the post, failed to recognize its true character, notwithstanding its peculiar fatality. It was not until September 13th that its existence came to the knowledge of the Board from several deaths having occurred in the city "reported" by somebody as the result of "yellow fever," and found to have been contracted at Governor's Island. Who this somebody was to whose discrimination may be traced the discovery of the disease is one of the secrets of the Board. Whoever he may have been, he was immediately reproved officially for his presumption, in a report made to the Board Sept. 20th, by Dr. Morris. There it was stated most emphatically that "all the facts" had been "*thoroughly* investigated," and "post mortem examinations upon the bodies gave satisfactory evidence that *the disease was not yellow fever.*" His report closes by stating: "Various opinions have been expressed by those of the medical profession who have been conversant with the facts connected with these cases, some classifying it as malarial bilious, and others as pernicious remittent and typhoid fever. Whatever may be its special nomenclature, *the fact is established beyond doubt that it is not yellow fever*, or a disease of a contagious character." One would imagine that these unequivocal declarations of the principal executive officer of the Department, fortified by the opinions of the Sanitary Committee, should have quieted all apprehension in the Board. But it appears that Judge Bosworth's mind failed to be convinced by these statements, as he speedily afterwards despatched to Governor's Island for further investigation a gentleman familiar with the disease, but not connected with the Department. Upon his representations of the *actual* state of affairs, the Sanitary Committee deemed it advisable at once to betake themselves again to the suspected spot (only five days subsequent to a previous "careful examination of the cases" in question). The result of this new visit is embodied in their report, presented Oct. 4th. They experienced no difficulty, on this occasion, in determining the nature of the disease, although, as they modestly asserted, "up to this time its true character had not been suspected by those who had been familiar with the disease in its Southern habitats."

In this report, likewise, they did not neglect the splendid opportunity afforded them of throwing a hot shot into the camp of the enemies of their colleague—the health officer of the port—by means of the following ingenious and wholly gratuitous inference: "Respecting the origin of the disease, and the circumstances of its introduction upon Governor's Island, from all the investigations possible in this limited time, your committee cannot but come to the conclusion that its source has been from infected vessels that have been allowed to land and lie at the docks of Brooklyn, ranging from a point at the empire stores downward as far as the Hamilton Ferry, opposite to the eastern shores of Governor's Island. Any infected article thrown overboard from these vessels would, by the natural flow of the tides of this point, be washed upon the beach of Governor's Island opposite to the quarters where the fever first broke out." Truly, our distinguished health officer must have grimly laughed in his sleeve at the announcement of this conclusion, resulting from the *investigations* of his confrères. For the

same committee, in its reply to Gen. McDowell's letter of defiance, refusing to subject the post to evacuation, conflagration, and "steam-heat," quote the following in support of their views: "These buildings are spoken of by Assistant Surgeon Guild, in his report on Yellow Fever on Governor's Island in 1856 (Med. Statistics U. S. Army, 1855 to 60) as a row of old dilapidated frame tenements, occupied by soldiers' families, and familiarly known as 'Rotten Row.'" Again he says, "the only locality within the limits of this post at all suspicious of giving rise to this disease *ab initio* is that excrescence of the Island, Rotten Row. It is an old wooden shell of a building, with many inmates, and affords more filth than all the rest of the Island besides."

In the same letter the Committee arrogate to themselves the sole credit of having discovered the special character of the epidemic, in the following language: "There is abundant proof that but for those visits (*i. e.* those of the Committee of the Board) the true nature of a malignant fever that had already prevailed nearly seven weeks among the residents would not have been discovered, nor would any measures have been taken to arrest its progress."

The gentlemen of the Sanitary Committee do not hesitate afterwards to assign *contagious* qualities to this disorder, in order to impress upon the public the value of their exertions. They state in the letter alluded to: "In dealing with an epidemic like that now prevailing there (on Governor's Island), its efforts have been limited to a simple watchfulness over those persons who may escape from the island, or who, visiting the island, return to the city. All such persons have been carefully sought for throughout the city by the health inspectors, and every possible care taken to prevent any detriment to the public health by exposure to these individuals." In one fatal case we understand that the assemblage of friends at the funeral was prohibited by the Board.

With regard to the prevalence of the disease in the city, there seems to have been as much difference among the medical members of the department as there had been unanimity of opinion, in the first place, that several cases dying in the city were anything but yellow fever, and, in the second place, that they could not be anything else. Dr. Russel, the Registrar, in an official report, on Oct. 11th, stated that up to that date only *one* fatal case of yellow fever had been registered, but added, in deference probably to the convictions of his associates, and their admissions of their inability to make a diagnosis of the milder cases on Governor's Island: "There is little doubt, however, that a number of deaths from this disease have been attributed to other causes of a malignant character, and hence it is altogether reasonable to presume that a considerable proportion of cases, less typical, have recovered without recognition by their medical attendants." The ground taken by this presumption is by no means untenable, considering the great number of visitors from the city who were known to have exposed themselves to the infection during the seven weeks of unrestricted intercourse with the island, and the few who ever came within the observation of the Board. In the officially recognized cases, besides, the attending physicians had naturally, from inexperience and ignorance of their origin, been unable to arrive at a correct conclusion, and others might have attended similar cases with a similar lack of perception. The Sanitary Committee, however, could not permit so dangerous a heresy to go forth without protest, and on Oct. 18th reported that it took exception to the last clause of Dr. Russel's report on Vital Statistics regarding Yellow Fever cases occurring in the city. The Committee asserted that "there have been but nine deaths and two cases of recovery from yellow fever in the city. It has carefully inquired into all the circumstances relating to these cases and it is satisfied that the disease in each case was contracted on Governor's Island, and that there is no evidence to show that there have been any cases of sickness or death from this disease other than those enumerated above."

We do not consider it necessary to express any opinion upon the circumstances which we have reviewed. They speak for themselves; and we believe ourselves justified simply in styling them the "Vagaries of the Board of Health."

A suit for malpractice which has some interest to surgeons has just been terminated in this city. The defendant was Dr. Lewis A. Sayre of this city. The patient, a child suffering from scrofulous abscess of the hip, was brought to him by the parent, who supposed the disease to be morbus coxarius. She was informed to the contrary and the abscess was opened. The child screamed and the mother became frantic and left the office with great precipitancy. The patient was not seen again by the surgeon professionally. A foolish charge was started that the latter had punctured the hip-joint by mistake and consequently maimed the patient for life. This view was accepted by some medical men who were induced to believe the misrepresentations of the patient's friends, and the case found its way, as is usual under such circumstances, into the court. We are pleased to say, on behalf of Dr. Sayre and the profession at large, that the plaintiff failed to substantiate the charges, and was non-suited. The point, however, is, that in the course of the suit a new precedent was established. Dr. Sayre demanded that the child should be subjected to a personal examination by experts, as access to it had been denied. This application, at first strenuously resisted, was finally granted in an able decision rendered by Judge Jones of the Superior Court. He reasoned from analogous cases, such as alleged impotence or pregnancy, and traced back the origin of bills of discovery, and placed this upon the same footing. His ruling, in this instance, is one of the greatest advances in medical jurisprudence

made by the Court during half a century, and will do much in future to discover the truth and to prevent malicious attacks upon medical men. It virtually puts an end to pretended injuries and trumped-up sufferings, which disappear as soon as the trial is over and the damages secured. We congratulate the defendant as being an instrument to so desirable an end.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

STATED MEETING, OCTOBER 6, 1870.

DR. H. D. BULKLEY, President, in the Chair.

THE President announced that Dr. John G. Adams was the biographer of the late Alexander H. Stevens, M.D., LL.D.

PATHOLOGY OF PULMONARY PHTHISIS.

Dr. Wm. H. Draper then read a scientific and voluminous paper on "Pathology of Pulmonary Phthisis," of which the following is an abstract:—

It is a common observation that chemical medicine adapts itself very gradually to new discoveries in Pathology. The old principles which have guided the practitioner at the bedside, and formed the stand-point from which he has watched the origin and measured the progress of disease, are abandoned always with reluctance, and every innovation must make its way against time-honored prejudices by the force of positive demonstration or the results of irrefutable experience. That the time has come to modify seriously the doctrines of Laennec and Louis in regard to the pathology of pulmonary phthisis, is the conviction of many who have been forced, by observation and experience in the light of modern pathology, to seek a more satisfactory explanation of many of the phenomena in the chemical history of consumption, as well as of many of the changes in its morbid anatomy.

It was doubtless this conviction that induced our worthy president to suggest this subject to the Academy for discussion; and while I recognize with him the interest and great practical importance of the questions it involves, I cannot but express my regret that the opening of the discussion had not fallen to some more experienced member of the Academy. You may perhaps be reconciled to the choice of the president by regarding me as a sort of junior counsel put forward to state the case for the advocates of the new views, while you wait patiently for the arguments of the older and more learned counsellors to whom we look for judicial opinions upon vexed questions.

Before entering upon an explanation of the modern views of the pathology of pulmonary phthisis, it will be important to the proper development of the subject to review the opinions of the earlier authorities on this disease, especially as these opinions are still widely held, and by many stoutly defended.

The word *phthisis* was originally applied to any form of disease that was accompanied by rapid wasting of the body, and its first limitation was its restriction to the diseases of the respiratory organs which were associated with emaciation.

The term *tubercle* was formerly applied to any little nodule or tumor, whatever its nature or location; and though still in common use in its liberal sense, its specific application to the peculiar variety of nodosities developed in pulmonary phthisis dates from the beginning of the present century.

. . . . . .

In the early discussions as to the nature of tubercle, the great source of confusion lay in the vicious use of the word tubercle, Laennec and his followers insisting that the transparent miliary granulation and the yellow infiltrated masses were only different forms of the same specific substance, and that the infiltrations could not be the result of inflammation because the granulations were not; while Broussais and his school, accepting the same broad signification which Laennec had given to tubercle, claimed that the yellow cheesy masses were certainly inflammatory, and therefore the granulations must be. Laennec protested that whenever evidences of inflammation existed in pulmonary phthisis they were secondary to the irritation produced by the deposit of tubercle, and hence he denied that acute or chronic pneumonia, bronchitis, or pleurisy, ever terminated in tuberculosis.

. . . . . .

Virchow first recognized the fact that the miliary granulation found in tuberculous subjects, either alone or in connection with inflammatory products, is a new formation of cellular nature, and, to quote his own description, "generally has its origin, like all other new formations, in connective tissue; and which, when it has reached a certain degree of development, constitutes a minute knot within this tissue. This knot, when it is at the surface, projects in the form of a little protuberance, and consists throughout its whole mass of small uni-or multinuclear cells." What especially characterizes this formation is the fact that it is extremely rich in nuclei, so that, when it is examined as it lies imbedded in the tissue which invests it, at the first glance there seems to be scarcely anything else than nuclei. But upon isolating the constituents of the mass, either very small cells, with one nucleus, are found, or larger cells, containing from 12 to 24 small nuclei. This structure, which in its development is comparatively more nearly related to pus, inasmuch as it has the smallest nuclei and relatively the smallest cells, is distinguished from all the more highly organized forms of cancer, cancroid and sarcoma, by the circumstance that these contain large, voluminous corpuscles with highly developed nuclei and nucleoli. Tubercle, on the contrary, is always a pitiful production—a new formation, from its very outset miserable. In its earliest stages, according to Virchow, these granulations are traversed by blood-vessels; but after a time by the pressure of the innumerable cells, the vessels are obliterated, and the process of degeneration begins in the centre, as indicated by a yellow spot. This is the commencement of the cheesy metamorphosis.

These observations of Virchow first established clear and defined ideas as to the nature of the tubercle, so far as its histological elements were concerned. They restricted the true tubercle to the miliary granulation, the true, essential anatomical element of tuberculosis. They differentiated this neoplasm from the crude tubercles and grey and yellow infiltrations, with which it had previously been confounded, and so led the way to a more rational and satisfactory explanation of the pathology of pulmonary phthisis.

In regard to the precise location of the tuberculous deposits, recent investigations have defined with more precision the exact seat of the true tubercle, and show that it is commonly developed in the adventitia, or the laminæ of connective tissue immediately surrounding the blood-vessels. According to Herard and Cornil, the miliary tubercles in the lungs develop themselves in the connective tissue which constitutes the walls of the lobules, and especially around the blood-vessels and capillaries which surround the bronchi. As the mass

enlarges through the active proliferation of nuclei and cells, it projects into the alveoli and encroaches upon the tunica of the finer bronchi, and so produces the appearance of having been developed within the bronchus or air vesicle. Another effect of the rapid proliferation is to compress the blood-vessels around which they form, and finally obliterating them, to prepare the way for the degeneration of the granulation and the destructive ulceration of the surrounding tissue.

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It would be a profitless task to review the many vague hypotheses which have been proposed from time to time to explain the origin of tubercle. It must be confessed that we are not made much wiser when we are told by Rokitansky, that "tubercle is in the broadest sense an exudate of solidified protein substances (albumen and fibrin)," etc., etc. Nor is it plain that we have solved the mystery of tuberculosis when we say with Simon that tubercle is that unorganizable deposit which occurs in various organs of the body, under the influence of a peculiar constitutional state which we call the scrofulous diathesis.

After recounting the experiments that have been made within the past few years in the *artificial production of tubercle by inoculation*, by Jenner, Villemin, Andrew Clark, Burdon, Sanderson, Wilson Fox, Waldenburg, and others, Dr. Draper sums up the subjoined conclusions which the facts developed justify:—

1st. That tubercle is anatomically a neoplasm, and like all heterologous tissues, has a physiological type. That the physiological type of tubercle is the lymphatic tissue.

2d. That the typical tubercle is the miliary granulation, and that the so-called crude and yellow infiltrated forms are examples of the degenerative stage or cheesy transformation, to which not only tubercle, but all heterologous growths and inflammatory products are liable.

3d. That the seat of tubercle is in the connective tissue, especially in the adventitia of the blood-vessels, in the walls of the lymphatic vessels, and the parenchyma of the lymphatic glands.

4th. That tubercle is not a specific morbid product, in the sense in which the syphilitic virus is, inasmuch as it may be produced by the inoculation of a variety of substances of animal, vegetable, and mineral origin, and that the only specificness which it exhibits is an inherited or acquired proclivity, on the part of the individual subject to it, to the development of the neoplasm, as the result of the absorption by the blood-vessels or lymphatics of such morbid products as it has been demonstrated will produce tuberculosis by inoculation in animals.

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It must be confessed, we think, that the advances in pathological anatomy tend to illustrate and confirm the doctrines first enunciated by Broussais—the demonstration of the true nature of caseous deposits, that they were something very different from tubercle, and nothing more nor less than progressive metamorphosis to which tubercle in common with other heterologous and inflammatory products was liable, proved that pulmonary phthisis was not necessarily tubercular. This then is the first, and perhaps practically most important, modification produced in the generally accepted pathology of pulmonary phthisis by the more intelligent views of the nature of tubercle, for which we are indebted to microscopical research.

. . . . . .

Niemeyer truly says, in the opening of his lectures on phthisis, that "no doctrine in the whole field of pathology is in such urgent need of reform as that of pulmonary phthisis," and for the reason that clinical medicine is for the most part still based on the theories of Laennec, that tubercle is the starting point of every case of phthisis, and that all the condensation and destructive processes are due either to the accumulation and softening of this substance, or to the secondary inflammation which they excite.

Now that the source of error and confusion is removed, and the true tubercle is distinguished from the false, it is time to recognize the fact which Broussais, Andral, Cruveilhier, Addison and others insisted upon —that phthisis is often a purely pulmonic process, having its foundation in pneumonia and bronchial catarrh and hemorrhage.

Laennec thought tubercle was a specific product: the experiments on animals have shown that it is not specific, inasmuch as it may be produced by the inoculation of a great variety of substances. Laennec thought that tuberculosis was a primary affection: the history of the tuberculization of animals goes to show that it is a secondary process.

The idea that tubercle is the effect of a certain so-called blood crasis was distinctly promulgated by Dittrich. His theory was that all diseases had a tendency to disturb the balance between repair and waste, and that whenever the waste was in excess, the products were accumulated in the blood, and contaminated it; that the accumulation of fibrin in the blood was the most important and serious of these contaminations, and that one of the secondary diseases to which it led was tuberculosis—so he explained the sequence of tuberculosis after the acute or chronic diseases of the lungs and other organs.

Buhl's theory of tuberculosis, based upon a series of post-mortem examinations of persons dying of pulmonary phthisis, published in 1857, is more specific, and especially interesting in view of the apparent confirmation it receives from the experiments on animals. Buhl divides cases of pulmonary consumption into three varieties: 1. *Acute miliary tuberculosis.* 2. *Acute infiltration.* 3. *Chronic tuberculosis.*

This author sums up the following facts as proofs of the resorptive origin of miliary tuberculosis:

1st. "The almost constant presence in tuberculous lungs of yellow tubercles and cavities."

2d. "These masses are not encapsulated, and the cavities are not everywhere bounded by thick fibroid connective tissue; therefore, resorption can easily occur."

3d. "The largest collection of miliary tubercle is at first soft, gray, and situated in the immediate neighborhood of the infecting mass."

4th. The circumstance of "the eccentric progress by the formation of new miliary tubercles, in such a way that the oldest and largest tubercles which have already become yellow or farther changed by shrinking or pigmentation are nearest the infecting mass, while the youngest, smallest, soft, gray, thickly-sown tubercles are farthest from it."

5th. The fact of "the possible occurrence of gray and at the same time miliary tubercles in almost every parenchymatous organ and serous membrane, even if there were only one resorptive mass in the body."

6th. "The clinical and anatomical appearance of an infectious disease, and especially the anatomical appearance of a specific infectious disease."

7th. "The situation of the single gray miliary granulations in those tissue-intervals which belong to the lymphatic vessels."

Buhl's *second* variety of pulmonary consumption, or acute infiltration, he compares with diphtheria, and calls it "lobular diphtheritic pneumonia." This pro-

cess, he believes, has nothing in common with miliary tuberculosis, but may give rise to it. His *third* variety or chronic tuberculosis, he thinks may arise from the second, but may also arise from an inflammatory or croupous capillary bronchitis.

Buhl believes in the specific nature of the tubercle virus, and applies the term tubercle, as Laennec did, to the various forms of new morbid products found in the lungs of phthisical patients. He farther argues the specific nature of the tubercle virus by stating his belief that it is transmitted in the human ovum and semen, in this way explaining the hereditary nature of the disease.

The almost invariable coincidence of miliary tubercles with caseous masses has also been insisted upon by C. Hoffman. He found these caseous masses not only in the lung, but in the urino-genital organs, in lymphatic glands, and in the products of suppurative peritonitis. Hofmann does not accept Buhl's idea of a specific tubercle virus in these masses, reasoning that their origin is too diverse, and that their common quality of giving rise to miliary granulations must be due rather to some common physical peculiarity.

Niemeyer, in accepting Buhl's theory of the dependence of miliary tuberculosis upon the presence of caseous masses, is guarded in his statement as to the precise nature of this association. He inclines to the view that the tubercular granulations are not due to an infection of the blood by a tubercle virus, but rather to a local influence, perhaps, acting through the lymphatic vessels.

In answer to the argument in favor of tuberculosis being a general disease, that the granulations are sometimes found extensively diffused through the parenchymatous organs and on serous membranes, he replies that the territories of granulations may be due to numerous foci of resorption. Thus he believes the tubercle of the peritoneum may very often be traced to caseous ulcerations of the intestine, just as those in the pleura or in the lung may arise from a neighboring caseous mass.

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We have thus considered the theory of tuberculosis as a resorptive disease, and as having its origin in caseous nodules; it remains for us in conclusion to consider the conditions under which caseous masses are liable to be produced.

Niemeyer, in his monograph on "Pulmonary Phthisis," states that "all forms of pneumonia lead, though not with the same frequency, to caseous infiltration, and the formation of cavities in the lungs; and that in cases having this termination, the danger of tubercular complication is exactly the same, whether the caseous products and the cavities are the result of a croupal or catarrhal pneumonia, and whether the latter has had an acute origin or a chronic development."

This statement requires some explanation. By croupous pneumonia, Niemeyer means the ordinary lobar pneumonia—the acute, primary disease, in which he says the exudations are analogous to those of croup; and by catarrhal pneumonia he signifies the lobular pneumonia—the sub-acute, and generally consecutive disease, which is commonly disseminated through both lungs, and is secondary to acute bronchitis, or the bronchial catarrhs that complicate eruptive fevers, hooping-cough, and influenza.

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The rapidity with which caseous infiltration of the lung takes place as the result of the pneumonic processes varies considerably, and is due probably, as Niemeyer states, to the degree of distension which the alveoli suffer as a consequence of the cell proliferation. If they are suddenly and intensely infarcted, the pressure exerted by the cells upon each other and upon the surrounding blood-vessels induces a rapid necrosis and the formation of cavities. This rapid infiltration and consequent softening constitute the pathological conditions of the form of phthisis commonly described as "galloping consumption."

When the accumulation of cells is more gradual, the lobular condensations undergo a slower atrophy, and may finally liquefy and be absorbed, or the organic matters may be absorbed and a carbaceous concretion be left behind. While these changes are going on, an active proliferation usually occurs in the surrounding connective tissue. As this new tissue shrinks, the neighboring alveoli are obliterated, and the volume of the lung diminishes. This is followed by one or both of two inevitable effects—a sinking in of the walls of the chest, and a distension of the bronchi, the latter constituting the oblong or round caverns which are so characteristic of chronic phthisis.

What has been said in regard to the formation of caseous masses in the lungs, and their consequences, embraces a description of the sole pathological changes in many cases of pulmonary phthisis, and according to the present views of the nature of true tubercle it must be admitted that such cases are not examples of tuberculous phthisis. The changes, however, that we have described as the consequences of pneumonic inflammation are often complicated with the presence of the true tuberculous granulations, and the relation of these to the caseous infiltrations is the question about which pathologists have differed from the time of Laennec and Broussais to the present. Are the caseous masses and cavities secondary to the eruption of miliary granulations, or is the eruption of miliary granulations secondary to the formation of the caseous masses? In the possession of data necessary to the decision of this question, it must be admitted that the modern pathologists have the advantage of the disciples of Laennec.

Laennec's theory of the identity of isolated and infiltrated tubercle was based upon their common tendency to cheesy transformation. The doctrine of the diversity of the miliary granulation and caseous masses is based upon the morphological distinctions revealed by the microscope. Laennec's theory, that the primary and unique anatomical element in all forms of consumption is tubercle, was a corollary, from the confounding of essentially different substances under the name of tubercle.

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The doctrine of the modern pathologists, that the miliary granulation is the sequence and result of the resorption of caseous masses, seems to be justified by the experimental genesis of miliary tubercle in the inoculation of the lower animals.

The relation of tuberculosis of the lungs to caseous lymphatic glands, and to caseous masses of diverse origin in other parts of the body, is established not only by experiments upon animals, but also by clinical observation. Another point of great interest upon which modern pathology has reversed the doctrine of Laennec and his school, is the relation of hæmoptysis to pulmonary tuberculosis. Laennec contended that it was always the sequence of tuberculous deposit; while modern observation makes it the precursor of caseous masses, and through them of tuberculosis.

In conclusion, we have only to say that the great interest which has of late years been awakened in the pathology of pulmonary phthisis, is more than justified by the great practical importance of the results already obtained. If caseous masses are often the sequence of "neglected or ill-treated catarrhs," especially in the

feeble and ill-nourished, then certainly we have reason to expect that the frequency of this sequence may be diminished by natural treatment; and if tuberculosis is not a specific disease, but a secondary accident, the result of a resorption of corpuscular elements from the detritus of caseous masses, then there is at least ground for the hope that the ravages of this dread disease may be measurably controlled by an intelligent prophylaxis.

The President, in stating that he was personally much pleased with the preceding paper, said that Dr. Austin Flint would read a paper at the next meeting "On Recent Views of Tuberculosis."

The announcement was also made that the discussion on both papers would follow the remarks of Dr. Flint.

On motion, the Academy adjourned.

NEW YORK PATHOLOGICAL SOCIETY.

STATED MEETING, SEPTEMBER 9, 1870.

DR. J. C. HUTCHISON, President, in the Chair.

FORMATION OF BONE IN THE EYE.

DR. H. KNAPP presented to the Society some specimens of bony growths within the eyeball, and remarked as follows:—Last year I showed to this society an eye in which an osseous capsule invested the whole inner surface of the choroid, ceasing abruptly at the beginning of the ciliary processes, continuing, however, at this point, into a false membrane which stretched transversely across the anterior part of the vitreous body about 1''' behind the lens. Since recent researches have shown that the capillary layer of the choroid does not extend over the ciliary body, I thought that ossification, being an active process requiring much nutritive material, was dependent on the capillary layer of the choroid. My friend, Dr. Althof of this city, afterwards informed me, to my surprise, that he had found ossification in the anterior part of the eye-ball and not in the posterior. He was so obliging as to give me the specimen for examination, which proved really highly interesting, and he allowed me to present it here. The choroid was found healthy. The retina detached. From the region of the ora serrata, an ossified plate extended across the vitreous. It lay behind the unchanged ciliary body. The lens was united to its membranous centre, drawn backward, shrunk, and partially calcified. I examined this specimen very carefully with the microscope, besides the fragments of two other specimens which Dr. Althof also was kind enough to place in my hands, and which are here before you. They contained thick shells of osteoid and osseous tissue on the inner surface of the choroid. Calcification existed in the anterior parts of the globe, and was also present in the interspaces of the bony shell.—Dr. Knapp illustrated the pathological conditions of the three specimens by elaborate drawings of microscopic preparations, and added that, by these investigations and the aid of the literature on the subject, he arrived at some remarkable conclusions:—

Formation of bone in the eye is the consequence and final stage of a plastic inflammation of the capillary layer of the choroid. Its seat is the inner surface of the choroid and the anterior part of the vitreous humor, behind the ciliary body and the crystalline. The diagnosis of ossification within the eye may be based upon the unyielding and hard condition of the posterior part of the globe, terminating about two lines behind the cornea, while the anterior region is soft. Calcification frequently accompanies ossification. Since ossification does not involve the outer choroidal layers, the ciliary muscle, and the iris, it, in itself, is not to be dreaded as a cause of sympathetic ophthalmia. The latter will result from chronic irido-cyclitis as a complication of ossific choroiditis.

STATED MEETING, SEPTEMBER 28, 1870.

DR. J. C. HUTCHISON, President, in the Chair.

OSTEO-MALACIA OF TARSUS, ETC.

DR. FINNELL presented a specimen of osteo-malacia of the lower extremity, removed from a female patient of St. Vincent's Hospital, who was suffering from tuberculous disease. She had disease of the ankle-joint for the past two years; but lately her sufferings became so intolerable that she determined to have the limb removed. When she entered the hospital she was suffering from all the usual symptoms of tuberculous disease of the lungs, save cough. In consultation the physicians were opposed to the operation, on the ground of the lung trouble, but the surgeons were of an opposite opinion. The operation was accordingly performed on the 27th, in the hope that the general condition of the patient might be improved. The specimen was sawn through longitudinally, showing the bones of the tarsus to be nothing more than softened, spongy masses, with pus infiltrated everywhere.

A DRESSING FOR STUMPS.

In referring to the dressing in this case he took occasion to say that he never used adhesive straps, but in their stead strips of lint soaked in a mixture composed of dilute carbolic acid, one ounce; prepared chalk, an ounce; and sweet oil, eight ounces. This was also the dressing employed in the case of amputation reported at the last meeting, and at the end of thirteen days after, when they were removed, the parts were found to be healing kindly. He preferred the lint in strips, on account of its ease of application and of removal.

During the operation an artery in the spongy tissue of the tibia bled so freely that it was necessary to plug the opening with a tapered lucifer-match and ligature attached.

DR. ROGERS had been in the habit of applying dry dressings to stumps, enveloping them, for instance, in a soft towel. He did not believe that carbolic acid was of much use in promoting the healing process in such cases.

DR. FINNELL thought that there might be danger in the ligatures adhering to the towel when the latter was removed.

DR. ROGERS remarked that there was always moisture enough from the discharges to prevent this.

DR. HUTCHISON stated that he had always succeeded in arresting hemorrhage from bone by the application of persulphate of iron, afterwards crowding the coagulum thus formed into the canal. In regard to the dressing of stumps he further remarked that he was in the habit of using none whatever, preferring to keep the parts freely exposed to the air. When it was necessary to nicely coapt wounds, he had been in the habit of painting over the edges with flexible collodion, containing from five to ten per cent. of carbolic acid. He had seen larger surfaces heal by the first intention after this application than by any other means. The paint is renewed every third day.

DR. HART had found great difficulty in preventing a peeling of this coating in warm weather.

DR. HUTCHISON.—When the collodion was good there was no danger of peeling off in warm weather.

DR. KNAPP presented two specimens of osseous de-

generation of the choroid in corroboration of the views presented at the last meeting.

DEGENERATION OF OVUM.

Dr. Van Geison exhibited an ovum discharged by a woman aged thirty-two, the mother of two children, the youngest of which, twenty months old, had been weaned six months. For three weeks past the patient had quite severe and persistent menorrhagia, ending with the appearance of the womb contents. From the persistency of the prominent symptom the existence of polypus uteri was conjectured, although no very thorough examination was made to confirm it. The ovum, which appeared to be six weeks old, had a remarkably dense covering, due, as the exhibitor believed, to some interstitial deposit in the membranes, more especially as the surface of the amnion was made very uneven by projecting nodules.

Dr. Rogers believed that the density of the membranes was due to a simple exfoliation of the chorion, amnion, and placental decidua.

Dr. Chamberlain called attention to a small point of commencing ossification in the temporal bones.

COLLAPSE OT LUNG-DIFFICULTIES IN THE DIAGNOSIS OF EMPYEMA PARACENTESIS THORACIS.

Dr. Lewis Smith presented two specimens of collapse of the lung. The first was removed from the body of an infant twelve days old, which was found in the morning lying dead beside its mother, the result of being "overlaid." The thoracic walls were somewhat compressed, the blood was unusually dark, and both lungs were nearly completely collapsed. In connection with the case he recalled five similar ones. He had been informed by the coroners that smothering was not infrequent among young infants of the poorer families, where crowding seemed to be a necessity.

The second specimen was of more interest on account of the history of the case to which it belonged. The little one was one year and eight months old at the time of its death. It had good health until the age of six months, when it commenced ailing. The physician who was in attendance upon the case failed to recognize any signs of lung trouble, leaving it presumable that the disease was latent. The infant, when eight months old, was brought to Dr. Smith. There were then no prominent symptoms to direct attention to the chest, being only a slight cough, and slight acceleration of the pulse, and respiration. The chest was, however, carefully examined for the purpose, in the hope that it might result in an explanation for the progressive emaciation. There was extreme dulness over every part of the right lung, but no marked inequality as to measurement compared with the other side. There was also broncho-vesicular respiration, but no bronchophony was noted; the diagnosis of suppurative phlebitis was made, and the operation of paracentesis advised. The mother was, however, requested to get the opinion of a distinguished physician and surgeon. That gentleman, to the surprise of Dr. Smith, stated by note that he thought the case to be one of interstitial pneumonia; that he had recognized the existence of bronchophony, and that consequently the operation was unwarrantable. On corresponding with him, he expressed the conviction that it would not even be prudent to make use of an exploring needle, and suggested that a third person examine the case. This advice was followed with the result of another decision against empyema and for interstitial pneumonia. Being thus over ruled, the patient was simply kept on the sustaining treatment during the remaining four months of its life.

At the autopsy all the organs save the right lung were healthy. This right lung was flattened and compressed by a thick fibrinous exudation upon its surface, while the chest cavity contained from eight to ten ounces of partially absorbed or thickened pus.

Remarking upon the points of interest in the case, he stated that the lungs of young infants in this condition were more apt to be compressed than the ribs were to be expanded. This explained the reason why during the last four months there was no difference in the measurements of the two sides. Again, the conduction of the liquid effusion was oftentimes so perfect, that the best auscultators could be deceived by the great proximity of the sounds to the ear.

He had seven similar cases within a year and a half, in four of which the operation was performed, followed by recovery; and in three, including the present one, it was not done on account of difficulty in diagnosis.

In answer to a question from Dr. Markoe, he stated the instrument used was an ordinary trocar, the introduction of which was prepared by an incision a little below the angle of the scapula. He also made the statement, in answer to the same gentleman, that there was no need to fear the entrance of air into the wound under the circumstances of the operation, and that he consequently was inclined to leave it open.

Dr. Watts asked if the temperature had been taken in the last case.

Dr. Smith replied that it had not been taken by the thermometer.

Dr. Markoe asked the age of the youngest patient with empyema.

Dr. Smith. The youngest that I can now recall was between two and three months. It is almost a rule that in young foundlings the pleuritis is suppurative.

Dr. Markoe had a case last summer, upon which he operated, that was only six weeks old.

Dr. Van Geison referred to a case which he saw in consultation, and in which the rational symptoms and autopsical lesions were precisely similar to those in Dr. Smith's patient. No physical signs could be made out, as the child would keep up a persistent crying whenever an examination was attempted.

Dr. Buck detailed the history of a specimen of fracture of the cervix femoris wholly within the capsule. He had come across it accidentally in the dead-house of Bellevue Hospital. There was no previous history of the case, and he regretted his inability to present the specimen.

Dr. J. C. Hutchison presented a specimen of epithelioma of the penis, which was removed from a negro sailor at the Brooklyn City Hospital, in May last. The patient, 52 years of age, entered the hospital for a suspected venereal disease. His prepuce was thickened and could not be retracted. A hardened surface could be felt beneath the foreskin, at the corona glandis, about the size of a nickel penny, which was entirely painless. There were no enlarged lymphatic glands. A few days after his admission a free hemorrhage took place through the perpetual opening, and he at once slit up the prepuce, and, exposing the ulcer, removed a small piece for microscopic examination. It was found to be epithelial cancer. The organ was amputated about one inch behind the corona, in the following manner:—An assistant encircled the organ at its root with the thumb and forefinger so as to compress the vessels, and the organ was excised at the point above indicated with a small amputating knife; there was no hemorrhage, and the vessels were closed by torsion. The mucous membrane of the urethra was then split into four quarters to the extent of two lines, and each part stitched

to the skin, so as to insure a free opening at the orifice after the healing of the wound. He had a satisfactory recovery, the orifice of the urethra being quite patulous.

Dr. Hutchison also presented three urinary calculi, weighing in the aggregate three ounces five drachms and twenty-eight grains, removed from a man 66 years old on the 10th of May last. The patient entered the Brooklyn City Hospital June 3d, 1870, presenting all the rational symptoms of stone in the bladder, from which he said he had suffered for two years. He had previously been troubled with indigestion. He was very feeble, had no appetite, and his sleep was disturbed by the necessity for evacuating the bladder frequently. His urine was ammoniacal, contained an abundance of pus and mucus, but no casts, and no more albumen than would be accounted for by the presence of the pus. An examination with the sound revealed a large stone in the bladder. No effort was made, on account of the patient's prostrate condition, to ascertain whether more than one calculus was present.

With the hope of improving his condition, preparatory to an operation, he was treated with appropriate tonics, anodynes, and generous diet, with rest. At the end of a week he had not improved, and his sufferings were so great, that Dr. H. removed the three large calculi by bi-lateral lithotomy—Professor A. C. Post's instrument being used for the operation. He bore the anæsthetic (ether) badly, and two hours after the operation he had a marked rigor. An examination of the wound showed that no urinary infiltration had taken place. On the following day he became comatose, pulse very frequent, profuse perspiration. The urine was discharged through the wound for twenty-four hours, and subsequently partly through the urethra and partly through the wound. He died on the fifth day, probably from uræmic poisoning. It was impossible to obtain a *post-mortem* examination.

NEW YORK MEDICAL JOURNAL ASSOCIATION.

Stated Reunion, October 7, 1870.

Dr. Isaac E. Taylor, President, in the Chair.

Dr. J. Lewis Smith read a paper, which we shall publish in full in a future number, on the *Symptoms and Diagnosis of Tuberculosis in Infancy and Childhood*, in continuation of the paper on the Ætiology and Anatomical Characters of the same affection, which we have already published.

Dr Dewees stated that he had been having constructed an apparatus for the generation of pure ozone, which he proposed soon to exhibit to the Association. He believed that ozone would prove of great therapeutic value in those affections where oxygen has been found of service, its greater activity enabling us to get the desired effect with a comparatively small quantity of gas.

The Librarian acknowledged the receipt of several donations to the library, for which votes of thanks were passed.

The following Order of the Board of Direction was announced:

The members of the Association will be furnished by the Librarian with Members' Cards of Admission to the Reunions and the Reading-Room, which will be necessary for admission on and after November first.

The meeting adjourned.

Stated Reunion, October 14, 1870.

Dr. Isaac E. Taylor, President, in the Chair.

SYPHILIS OF THE NERVOUS SYSTEM.

Dr. E. L. Keyes read portions of an extended and important paper upon this subject, based upon the clinical observation of thirty-four cases. It appears in full in the current number of the *New York Medical Journal*. We have space only for the summary of its conclusions:

1st. That nervous symptoms depending upon syphilis may arise within the first few weeks after contraction of an infecting chancre, or at any period later during the life of the individual.

2d. That it is presumable, from the study of published autopsies, that the earlier a nervous symptom (paralytic or otherwise) occurs, the less likely is there to be any material lesion which an autopsy can reveal; and that in a given case there exists no constancy of relation between the nature, the situation and the severity of the lesion, and the nature, situation and severity of the nervous symptom to which that lesion may give rise.

3d. That cerebral congestion is probably the pathology of many of the earlier nervous syphilitic symptoms.

4th. That syphilitic hemiplegia occurs, as a rule, without loss of consciousness even when the attack is sudden, but that the paralysis usually comes on gradually, the patient being under forty years of age and having had fixed constant headache for some time before the attack.

5th. That mydriasis existing alone or with other nervous symptoms, without positive disease of the eye, is presumptive evidence of syphilis.

6th. That paralyses of single muscles or sets of muscles are frequently syphilitic.

7th. That syphilitic paraplegia generally comes on gradually, often without any local symptom to call the patient's attention to the injured portion of the cord, and that it is rarely complete. That the bladder almost always suffers more or less, and calls for special local treatment. That paraplegia may be developed as a symptom of inherited syphilis.

8th. That syphilitic epilepsy usually occurs after thirty in patients who have not had epilepsy in early life. That headache is liable to precede the attacks. That the convulsions occur often many in quick succession, the intermission between the series of attacks being comparatively long; but that, during this period, headache or other nervous symptoms exist and become aggravated, contrary to what obtains in idiopathic epilepsy. That syphilitic epilepsy is liable to be associated with or followed by some form of paralysis.

9th. That aphasia is often associated with the intellectual disturbances caused by syphilis.

10th. That loss of memory is a common nervous symptom of syphilis, as are also all forms of mental disturbance, from mild hallucinations and illusions up to actual insanity, and all these without any necessary accompanying paralysis.

11th. That inordinate emotional expressions are often associated with the mental weakness caused by syphilis.

12th. That care must be taken to distinguish certain symptoms caused by gout from the same symptoms owing their origin to syphilis.

13th. That the prognosis is better, as a rule, for nervous symptoms caused by syphilis than for the same symptoms depending on a lesion equal in extent caused by another malady of the nervous centres; but that, after

the arrest of the disease, an indelible impression is often left upon the nerve tissue, which manifests itself by impaired function, and which treatment cannot overcome.

14th. That the iodide of potassium pushed rapidly to toleration, unless the symptoms subside before that point is reached, is the main outline of treatment. That mercury used at the same time or alternated with the iodide of potassium is often of great value in protracted or inveterate cases, and that tonics, change of air and surroundings, frequently influence the effect of treatment in a marked degree, and may become essentials to success.

DR. F. R. STURGIS, referring to a statement that syphilitic epilepsy had never been observed to occur within less than a year from the time of infection, said that he had seen a case, in the practice of Dr. Bumstead, where a young man, twenty-three years of age, had been attacked with epilepsy within six months after the initial chancre. The history of the patient was gathered from his friends, and, so far as could be learned, he had never before had epileptiform seizures.

DR. A. C. POST had examined, at his clinic the day before, an infant of twelve months, suffering from chronic hydrocephalus, and bearing undoubted evidences of syphilis. Hydrocephalus had not been mentioned as a result of this infection.

DR. R. F. WEIR had been glad to hear the rule so distinctly stated, to push the iodide of potassium rapidly to the point of toleration. He had been forcibly impressed with its importance by the case of a patient to whom he had, at one time, been giving three hundred and eighty grains a day. A woman of about forty had evanescent hemiplegia following syphilitic primary lesion. As this symptom passed off, in the course of forty-eight hours, there was developed that of a firm band about the waist, and also some trouble with the bladder. Under the use of the iodide she became convalescent, and went into the country. Some two months later she had a second evanescent attack of hemiplegia, upon the opposite side, and again the difficulty with micturition, and the distressing sensation of the girdle around the waist. She had recourse to the iodide, in saturated solution (an ounce of the salt to a fluid-ounce of water), and wrote that when she reached the dose of five hundred and seventy drops in the twenty-four hours the girdle vanished, the functions of the bladder were restored, and she felt herself a well woman. As a drop of the solution contains but about two-thirds of a grain of the salt, she was then taking three hundred and eighty grains a day.

DR. BULKLEY'S experience corroborated the statement that syphilitic hemiplegia occurs without loss of consciousness. He had also seen one case of acute syphilitic mania, like those related. In the treatment by mercurials he decidedly preferred the protiodide to the biniodide.

DR. W. H. DRAPER would refer to one point in a case, related in the paper, which had come under his own observation. He had frequently examined the patient's urine, finding nothing abnormal except, of course, the constant presence of iodide of potassium. But on one occasion he discovered large numbers of hyaline casts, especially of the smaller tubuli; they were more abundant than he had ever before seen in any case, though the urine was not albuminous. This caused him some anxiety, suggesting the question whether, in giving these large doses of iodide of potassium, we do not run the risk of laying the foundation of chronic Bright's disease. He had since often examined this patient's urine and had not again found casts; and the man was now in the enjoyment of robust health. Dr. Van Buren, to whom he had mentioned the subject, had never seen casts in the urine of patients taking the iodide. The question was an important one, as probably the greater part of the salt finds its exit in the urine, and it would seem hardly possible to keep up so great a degree of diuresis for a long time, without producing so much congestion of the kidney as to give rise to renal lesion. The speaker continued:—

Another case came under my observation about six months ago, sent to me by Dr. Tilden Brown, under whose care he had been for the six months previous, having been admitted to the Bloomingdale Asylum for symptoms of dementia. He was sent to me for excessive diuresis. I found him passing nine pints of urine in the twenty-four hours, with an average specific gravity of 1005. He was much emaciated, with dry skin, dry mouth, constipation of bowels, and marked physical exhaustion, as well as mental prostration, though from the latter he had somewhat recovered. He had hardly entered my office when he was obliged to lie down on the lounge, and it was with great difficulty that he could give me his history. At first I had no suspicion of syphilis, and treated the case with valerian, according to the suggestion of Trousseau. It produced little effect upon the polyuria. After seeing him two or three times I inquired if he had ever had any venereal disease. He said that, four years before going to the Bloomingdale Asylum, he had had a sore pronounced by Dr. Sayre to be a chancre. I inferred also, from his statements, that he had been treated with mercury. He had had multiple adenitis; and the sore had healed in five or six weeks under the medicine given him. About six months after the primary sore healed, he had a pustular eruption on the back and in the scalp. He had never had rheumatism. Thinking it possible that the diuresis might depend upon the existence of an intracranial syphilitic lesion, I determined to put the patient upon the use of increasing doses of iodide of potassium. I began with ten-grain doses, and the improvement in the patient's general condition was astonishingly rapid; he gained strength and spirits so fast as to amaze himself as well as his wife, who always accompanied him. The effect upon the urine was not so marked at first, but in the course of two months was quite decided. It had then diminished in quanity from nine pints to five or six, and attained in one instance the specific gravity of 1010. The man had meanwhile gained flesh, color, physical strength, and nervous energy. I increased the dose of the iodide to twenty grains, and continued it for three or four months longer. It is now a month since I have seen the patient.

This case interested me greatly, as suggesting the possibility of an intracranial lesion so located as to give rise to that irritation which we know will produce diabetes, either of the sweet or of the insipid form. For, although there is not, so far as I know, any observation of diabetes produced by syphilitic lesion of the brain, yet we know that experiment has demonstrated that irritation of the floor of the fourth ventricle, of the optic thalami, of the crura cerebri, or of certain portions of the spinal cord, will give rise to diabetes, sweet or insipid. We know, too, that tumors located in this region will also give rise to it; and it has been shown that in certain cases of hemiplegia dependent upon apoplectic clots diabetes occasionally results. Thus it appears to me not at all improbable that a syphilitic meningitis or gummy tumor may be so situated as to give origin to this symptom. With regard to this case I do not know that this conjecture of mine is correct, but it seems quite possible that it may be so. At any

rate, taking into consideration the cerebral symptoms for which the patient was under the care of Dr. Brown, and the diabetic symptoms for which he came under my care, and comparing the case with the instances of insanity from syphilis reported by Dr. Keyes, it becomes one of remarkable interest.

Dr. Keyes had found casts in the urine of but one of his patients while taking the iodide of potassium. He was taking the dose of eighty-seven and a half grains three times a day, when he became affected with slight nausea; and the urine exhibited hyaline casts, though very few of them, and traces of albumen; no blood. The doctor had known the patient for a couple of years before, and occasionally examined his urine, finding neither casts nor albumen. There seemed to be no cause for their appearance except the medicine, and the question had arisen whether it was justly chargeable to that. The patient went into the country, dropping one of the three doses a day and continuing the other two. The albumen and the casts gradually disappeared, and did not return.

The President said that, about twenty years ago, the question of the proper dose of the iodide of potassium was brought prominently before some of the London medical societies, and the conclusion reached that two-grain doses, long continued, were less harmful and more permanently efficacious than the larger ones.

Dr. C. C. Lee had, within two years past, had under his observation, at Charity Hospital, three cases of Bright's disease in syphilitic patients, who were given large doses of the iodide of potassium. In each of these cases, when the iodide had been taken for a week or ten days, the number of casts in the urine was materially increased, as was also the proportion of albumen. In each case he had been led to believe that the increased irritation of the kidneys was caused by the salt; which was, nevertheless, continued as long as the syphilitic symptoms remained prominent. The casts were chiefly hyaline, though in one case there were a few fatty casts, and in another a few granular ones. These last had existed previously to giving the iodide, and he did not know that they were specially increased by it.

Dr. M. H. Henry spoke of the great difference in the doses of iodide of potassium as given in England and in this country, and was convinced that our experience justified the more heroic treatment. He alluded to a frequent action of the drug in diminishing or completely dispelling the paralysis (mydriasis, ptosis, etc.) attendant on cerebral affections of syphilitic origin, while having, for a long time, no perceptible effect upon the patient's mental condition. In illustration of these points he related a case of extraordinary interest, the report of which we withhold by request, as the patient is still under treatment, and the doctor intends to report the case in full when complete.

Dr. Draper stated, in reply to a question, that in the case of dementia and diabetes which he had detailed there was no paralysis.

The President had, in several cases of syphilitic hemiplegia, given small doses of bromide of potassium in conjunction with mercury, and the results had been favorable. He thought it well to give mercurials in connection with the iodide of potassium, as it had been pretty well established in this city that these, especially the bichloride, tend to prevent the development of Bright's disease.

Dr. F. P. Foster inquired whether any of the gentlemen had seen examples of the syphilitic analgesia lately described by Fournier. He had had one case in dispensary practice. A woman whom he had treated or syphilitic iritis sent for him some months later, and he found her with slight impairment of muscular power in the right lower extremity, and very considerable impairment of sensation in the same limb. He could find nothing pointing to any lesion of the spinal cord.

Dr. R. W. Taylor had, since about the first of January, when his attention was drawn to the subject, carefully sought for this symptom in fully fifty cases of secondary syphilis in women, and had yet to find the first instance.

Dr. Keyes had been on the look-out for it, but without success.

The meeting adjourned.

Stated Reunion, October 21, 1870.

Dr. Isaac E. Taylor, President, in the Chair.

THE PROGRESS OF RELAPSING FEVER.

Dr. Elisha Harris, after a brief reference to former epidemics of relapsing fever, gave a more particular account of the progress of the disease as it has appeared in Great Britain and in this country within the past two years. He then endeavored to trace its course through the other countries of Europe and in some parts of Asia, back as far as the year 1864, though the accounts obtainable were not such as to form an unbroken chain. His researches concerning its outbreak in this city last year had been quite exhaustive, and had led to some interesting results regarding its spread from certain foci, its period of incubation, etc. He was preparing a full statement, with details of names, dates, and localities, for publication in the official report of the Health Board. In response to a question as to what were the characteristic features of the disease, he gave an account of his own sufferings in an attack which had come on just nine days after exposure, with a suddenness reminding him of his former experience of yellow fever.

STRUMOUS INGUINAL ADENITIS.

Dr. Jerome C. Smith presented a patient, thirty-two years of age, with great swelling of the glands of both groins, some of those on the left side especially having attained an enormous size. Doubtless from their interference with circulation, the scrotum had become œdematous, and was at least four or five times as large as normal; and the œdema was beginning to extend to the penis. There was nothing but scrofula to account for the glandular enlargement. The patient came of a highly scrofulous stock; his mother had suffered from strumous affections all her life, and his brothers and sisters were nearly all subject to them in one form or other. He himself showed the scars of old strumous abscesses; and about four years ago his health had rapidly failed under well-defined symptoms of pulmonary phthisis—great emaciation, night sweats, etc., and slight hæmoptysis. He had got considerably better, when, last January, the inguinal glands began to swell. He came under the speaker's observation in June; since then his general condition had much improved, and he had gained twenty-five pounds. But, in spite of local and internal treatment, the glandular swelling had persisted, being only slightly diminished, and the œdema was getting worse.

The meeting adjourned.

The Chemical Analysis of 184 Cases of Stone.—Of the 184 stones removed by Sir Henry Thompson, by the operation of lithotrity, 122 were uric acid and the urates; 16 were mixed; 40 were phosphatic; 4 oxalate of lime; 1 cystic oxide; and 1 pure phosphate of lime.

Medical Items and News.

New York Medical and Surgical Society.—At a stated meeting on the 8th inst., Dr. Adams announced the decease of Thaddeus M. Halsted, M.D., as having occurred during the summer recess, and among other remarks stated, that Dr. H. had been an active member of the Society for more than twenty-five years. Drs. Adams and Buck having been, on motion, appointed to prepare a minute in connection with this event, recommended that the following resolution be entered upon the minutes, and that a copy thereof be transmitted to the family of the deceased:—

Resolved, That the N. Y. Medical and Surgical Society enter upon their records the recent death of Thaddeus M. Halsted, M.D., for a long series of years an active and valued member of the Society. In discharging this melancholy duty, your committee cannot do justice to their own feelings, nor to the memory of the departed, without bearing testimony to the loss which this Society has sustained in the removal of one so beloved as a man, so greatly respected as an honorable and successful practitioner, and so sincerely devoted to the interests of this Society. Ever kind and genial in his spirit and intercourse, highly conservative in his views and influence, in his official trusts diligent and self-sacrificing, an honored member of an honorable profession, he has left a void in our number which is deeply lamented.

We desire, also, to express our sympathy with the bereaved relations of the departed in their deep affliction, and we recommend that (in accordance with our usage) one of our member be appointed to prepare a memoir of the life and character of the deceased.

Resolved, That these proceedings be published in the Medical Journals of this city.

Oct. 22d, 1870. John G. Adams, M.D.
Gurdon Buck, M.D.

The Opening of the Medical Colleges of New York City.—The opening exercises of the University Medical College, and College of Physicians and Surgeons, took place on Monday evening, October 3, 1870. Prof. Charles A. Budd delivered the opening address at the former Institution, and Prof. Thomas M. Markoe at the latter College.

On Wednesday evening, October 12, 1870, Prof. Frank H. Hamilton delivered the introductory address at the Bellevue Hospital Medical College. Prof. James P. White, of Buffalo, who gives the course on obstetrics this year, at this College, was called out, and made a few congratulatory remarks.

All of these institutions are in a flourishing condition, and their halls filled with students, representing every State in the Union, and the Canadas.

New York State Inebriate Asylum.—Dr. Daniel E. Dodge has charge now of this Institution, and Dr. Willard Parker is President of the Board of Trustees.

American Association for the Advancement of Science.—This Association held an interesting series of meetings at Troy, N. Y., commencing August 17th, and adjourning August 24, 1870, to the third Wednesday of August, 1870, meeting in Indianapolis, Indiana. Officers for 1871: Prof. Asa Gray, of Cambridge, *President;* Dr. Geo. F. Barker, of New Haven, *Vice-President;* F. W. Putnam, of Salem, *General Secretary;* W. O. Vaux, of Philadelphia, *Treasurer*. The meeting for 1872 was appointed for San Francisco. Two hundred members registered their names upon the books of the Treasurer. One hundred and forty-three scientific papers were presented at the Troy meeting.

New York Medico-Legal Society.—The Annual Meeting of the New York Medico-Legal Society was held at the College of Physicians and Surgeons, October 13th, 1870. The following officers were elected for the ensuing year:—Dr. Stephen Rogers, *President;* Jacob Shrady, Esq., *First Vice-President;* Dr. J. J. O'Dea, *Second Vice-President;* Dr. Kemp, *Assistant Recording Secretary;* Dr. Jean F. Chauveau, *Corresponding Secretary;* Dr. Thomas S. Bahan, *Treasurer;* William Shrady, Esq., *Librarian;* Dr. Stephen Clarke, *Curator. Trustees*:—Dr. J. C. Peters, Dr. Thomas C. Finnell, Dr. Wooster Beach, Elbridge T. Gerry, Esq., Francis Tillon, Esq., and Jacob F. Miller. The Society now numbers nearly two hundred members.

New Hampshire Asylum for the Insane.—The twenty-ninth annual report of the Trustees has been published, and from it the following facts are extracted: Nearly twenty-eight years have elapsed since the New Hampshire Asylum commenced its career at Concord. During this period 2,804 patients have been inmates and received treatment; 1,144 of these—about 41 per cent.—have been restored to mental soundness. 367 patients have been under treatment the past year, and there are now in the institution 253. Of the number admitted in 1869, 190 were men, and 177 were women.

The total daily average for the year was 249—$123\frac{1}{10}$ men, and $125\frac{9}{10}$ women. Of those discharged (91), 37 had recovered—22 men and 15 women; 34 were imprisoned—18 men and 16 women. The ratio of recoveries was very low, being only a fraction over 28 per cent. Twelve men and 11 women died. Of those admitted in 1869, 32 were between the ages of 20 and 30 years; 28 between 30 and 40 years; 30 between 40 and 50 years; under 15 years, 1. There were 26 farmers, and 41 of household occupations. Active mania was developed in 54; mild or chronic mania, in 34; insanity with epilepsy in 10; melancholia in 13, and dementia in 8 patients.

The medical officers are as follows: J. O. Bancroft, M.D., *Superintendent and Physician;* J. P. Brown, M.D., *Assistant Physician;* and Wm. H. Ruddick, M.D., *2d Assistant.*

Our Climate not Growing Colder.—At the meeting of the American Association for the Advancement of Science, held at Troy, N. Y., August 17, 1870, Prof. O. W. Morris, of the Cooper Union, New York City, read a paper on the temperature of this city for twenty-five years, which proved that the popular and prevalent impression that our climate is growing colder is totally untrue.—*American Chemist.*

The Compass Plant.—Prof. Hill (*Am. Chemist*) corroborates the fact that the edges of the leaf of the wild sun-flower—compass plant—of the western prairies, do lie north and south.

The Source of Petroleum.—Prof. Hunt (*Am. Chemist*) proves petroleum to be indigenous to certain limestones. The oil is found generally in bands or patches, with strata above and below containing no oil. The oil is hermetically sealed in the pores of the limestone, and escapes in lines of disturbance. Heat is required for the separation of the oil. Near Chicago is true limestone of the Niagara formation, containing more oil than Pennsylvania has produced for ten years. The oil, however, is not obtainable, as it does not form in pools.

Prof. Wöhler.—The 70th anniversary of the birthday of this renowned German chemist occurred on the 31st of July. He has had more American students in his laboratory than any other European professor.

THE CLIMATE OF NASSAU.—Nassau has not only been proved to be superior to all other localities as a *Sanitarium* in the New World, but superior, also, to Madeira itself. Madeira is decidedly more healthy than Nassau, from the 1st of June to the 1st of November, when the thermometer in the former island stands at an average of 71° 60′; while in the latter it averages 85° of Fahrenheit. And Surgeon General Bagot, of the British Army, very properly remarks, that no person seeking health should ever find himself in Nassau from the middle of June to the middle of October. The unhealthiness of the island in summer is conceded, but from the 1st of November to the 1st of June, *there is not, in all probability, any spot on the face of the earth* so desirable for persons suffering from Pulmonary complaints. And *Nassau is only four days' sail from New York;* the steamer landing passengers on their way to Havanna. Nassau is situated in lat. 25° 05′ North, and longitude 77° 20′ West. Madeira is in latitude 31° North. The climate of the two places, as indicated by a long series of thermometrical observations, is as follows:—

Madeira.....	Winter,	63° 50′	Spring,	64° 45′
Nassau.....	do.	70° 67′	do.	77° 67′
New York...	do.	30° 12′	do.	52° 06′

Now, you and I know, that when in winter the temperature of our houses gets down to 65°, we increase our fires; and consequently we know too, that to constitute a climate the mean or average of which is 63° the thermometer must, most of the time, be below 60°, consequently fires become a necessity; and the outdoor atmosphere is not one which an invalid afflicted with disease of the lungs may safely breathe. The remedy in all lung diseases is exercise in the open air, constantly inhaling an atmosphere of 70° or upwards; and the mean of the winter temperature in Nassau being 70° 67′, and of the spring 77° 67′, both dry with perfectly cloudless skies, there appears to be no doubt that from November to May, New Providence is without a rival as a great *Sanitarium*.

Frost has never visited Nassau—the coldest day known during the past twenty-one years of careful registration (with one exception not verified) being 64°; and the warmest, from November to May, 82°— a variation of only eighteen degrees between the coldest and the warmest day, during the period that invalids would naturally visit the Island for health. And the greatest difference in the thermometer ever recorded between October and June is only twenty degrees.

It follows, then, that there is on earth no such other place, as regards climate between October and June, as Nassau. The rain-fall during the winter and spring is as follows, viz.:—

November, 2.8; December, 2.4; January, 2.4; February, 2.4; March, 4.5; April, 2.4.

The mean height of the barometer for a series of years is ascertained to be exactly 30 inches, and the average humidity of the climate is 73.3.

During the months of March and April we had only five falls of rain, usually of only two or three hours' duration, or less; and once, raining about six hours continuously. During those two months we had rain previous to 10 P.M. but once; and both day and night the heavens were cloudless.—*Extract from Letters by Gen. J. Watson Webb.*

THE BRITISH MEDICAL JOURNAL. — Dr. Jonathan Hutchinson has resigned the editorship of the *British Medical Journal.*

A WOMAN-DOCTOR'S PRACTICE.—Mrs. Hannah E. Longshore, M.D., of Philadelphia, enjoys a lucrative practice, realizing an income of $10,000 per annum.

THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.—The Fortieth meeting of this honorable Society was held in Liverpool, Sept. 14, under the presidency of Prof. Huxley, F.R.S., etc.

THE BLOOMFIELD GAS WELL.—Prof. Lattimer, of Rochester University (*Am. Chemist*), has made a careful photometric test of the gas, and reports an illuminating power of fourteen candles. The supply is estimated to be ten million cubic feet per day. This is more than the daily consumption of gas in New York city. Prof. Henry Wurtz estimates the daily flow of gas to be about 400,000 cubic feet. By the removal of the carbonic acid in the gas by the use of dry lime, it is possible the illuminating power of this gas may be improved. It is proposed to supply the city of Rochester with gas from this source.

For a full description and analysis of the gas from this spring, see the *American Journal of Science* for May.

A CELEBRATED LITHIA WELL IN ENGLAND.—Redruth, in Cornwall, is the most remarkable salt and lithia well in England. It issues from a depth of 230 fathoms. The composition of the water is as follows:

Chloride of Potassium,	grs. 14.84
" " Lithium,	" 26.05
" " Sodium,	" 363.61
" " Magnesium,	" 8.86
" " Calcium,	" 215.17
Sulphate of Lime,	" 12.27
Silicic acid,	" 3.65
Total,	644.45

This well yields nearly 900 lbs. of lithia in 24 hours, being four times as much as the strongest well of it hitherto known.

THE FACE OF THE LATE PROFESSOR VON GRAEFE.—It is said the face of this renowned ophthalmologist so closely resembled one of the extant portraits of our Saviour, that he was known among some of the less reverent of his countrymen by the cognomen of Christus—a fact which sufficiently implies its highly spiritual style of beauty.

BERLIN UNIVERSITY.—This university has a professional staff of 165 men, the largest number being engaged with the philosophy faculty (literature and sciences together).

A SINGULAR CHILD.—Sioux City has a curiosity in the form of a child 3 years and 6 months old, with a head measuring 29¼ inches in circumference, mounted on a body no larger than that of an infant 4 months old.

MANUFACTURE OF SPIRITS FROM LICHEN.—Dr. Stahlschmidt (*Bayerisches Industrie und Gewerbe Blatt*) thus describes the process of making spirits from marine and terrestrial European lichens. The cellulose of the lichens or moss is converted into glucose by boiling with from 7 to 10 per cent. of the mass of hydrochloric acid (sp. gr. 1·165) by the aid of steam; the acid is saturated with chalk, and the saccharine matter brought to fermentation; 20 pounds of moss or lichen yield 5 litres of spirit at 50 per cent. anhydrous alcohol.

New Publications.

BOOKS RECEIVED.

THE PHYSICIAN'S PRESCRIPTION RECORD, containing nearly four hundred prescription blanks, with forms for record of the condition of the patient and copy of prescription. Philadelphia, S. W. Butler, M.D., 1870.

Original Lectures.

A LECTURE
ON
THE MENTAL STATE OF EPILEPTICS
AND
ITS MEDICO-LEGAL RELATIONS.

By MEREDITH CLYMER, M.D.

PART II.*

Now the natural outcome from this investigation into the mental state of epileptics, illustrated by the cases which I have cited, is, that the mind of the epileptic is rarely, if ever, entirely whole, and that the psychical derangements to which he is liable are exhibited under varied features. In many cases there is gradual failure of intelligence ending in total mental annihilation; others show anomalies of character and disposition which hardly go beyond harmless eccentricities of conduct, or at most involve a change of temper and habits; in some there may be an extreme perversion of affective life, and occasional explosions of automatic temper-fits, in which they lose the knowledge of themselves, but are generally content, with piteous action, to unpack their minds in words—

—tantum maledicit utrique, vocando
Hanc, Furiam; hunc, aliud, jussit quod splendida bilis;

or there may be those terrible outbursts of maniacal fury, accompanied with homicidal or suicidal impulses, or both. We must admit, too, that epilepsy may be manifested, at least for a while, by some mental disorder only, constituting the masked epilepsy of Morel, and which has been very stupidly called cerebral epilepsy, from some supposed analogy with spinal epilepsy, another odd misnomer. If a special name is needed, the term *psychical epilepsy* would be more proper.

The disposition which these psychical derangements have to express themselves in convulsive action, is not the least curious or interesting part of their clinical history. A distinguished pupil of the late Griesinger, Dr. Paul Jacoby, has attempted an explanation of the manner by which the morbid impulses of the insane are transformed into, and manifested by, musculo-motory efforts. We know, he says, that every perception (sensation, idea, image) may take on a motor character, and be directed towards groups of muscles, and that it has always a tendency to express, or interpret, itself by some movement or action. Griesinger himself first showed this fundamental fact of all psychical life, and represented the motory side of mental life as a gradual succession of events following the same principle, from the simplest reflex action, to the best known act of the will. This view has been assented to by the metaphysician Schopenhauer and the physiologist Schiff. Griesinger, moreover, calls attention to the fact that in insanity much depends upon derangements in the normal psychical reflex action, without the entire higher mental life being necessarily involved; and Guislain holds the same. Let me quote one or two sentences from Griesinger, in which he applies his theory to the subject under consideration. "It is worthy of note," he says, "that frequently in mental disease, this motory side of the soul-life and the musculo-motory function are both altered in the same morbid manner. Thus there happens absence of will, together with general paresis of movement, or a morbid exaggeration of the will, with increased muscular activity, as in maniacal fits; at other times the disease passes quickly from one circuit of action to another, as in an attack of epileptic convulsions, followed immediately by a psychical convulsive state, an attack of frenzy. But as the sensations and feelings are the more easily converted into instincts in proportion to their strength, so Will is developed out of the single perceptions the more readily according to the strength and persistence with which they enforce themselves. On this account the strongest ideas, at the end of their transition, pass forcibly into actions."

Let us now inquire whether there is any pathogenetic correlation between the convulsive phenomena in an ordinary epileptic fit and the psychopathic manifestations of epileptic mania. Many physiologists recognize an intimate connection between the emotions and the sensory ganglia, and particularly the medulla oblongata. Years ago Marshall Hall wrote: "Emotions, the passions, have their seat in the medulla oblongata, and act along the true spinal and ganglionic nerves." Later Schroeder van der Kolk expressed the same opinion; and Dr. Lockhart Clarke has, quite recently, said: "It is probable that the olivary bodies are the centres through which different movements are co-ordinated for expressing the passions and emotions." (*Philosophical Transactions*, 1868, p. 319.) Dr. Laycock observes: "Ideas, feelings, or desires may, during morbid states, pass downwards to the medulla oblongata, and there excite the activity of appropriate motor or kinetic substrata, without at the same time exciting any state of consciousness whatever. This is what occurs in all cases of automatic or unconscious cerebral action." (*Mind and Body*, ii., 443.) "The emotional faculties have probably their chief seat in this region [the medulla oblongata], and in the adjacent mesocephale," says Handfield Jones. (*Studies on Functional Nervous Diseases*, 1870, p. 5.) Now, if we may assume a special relation between the medulla oblongata and the emotions,* we can readily understand the relation between the convulsive and psychical forms of the disease. When speaking of the pathogeny of epilepsy, I told you that the medulla oblongata was the starting-point of the convulsive phenomena. It is the immediate centre which excites muscular contraction. Now, whatever is the cause of the irritation of this centre in the beginning of the fit, it is from it that is discharged through the sensori-motory apparatus upon certain muscles the impulsive force—now in the way of irregular muscular movements, and now as automatic muscular action determined by the nature of the emotion, in both cases the higher inteilectual centres being in abeyance, and probably in an anemic state.† In the latter instance it is the outlet of the abnormal direction of the emotional excitement. The physical and the mental symptoms proceed from the same cause. There is identity of pathogenetic origin, the difference being in expression, and the divers morbid disturbances are the result. We have seen that the maniacal outbreak may precede, follow, or take the place of, the ordinary convulsive fit, thus showing their relationship; and the hypothesis I have offered, based upon physiological grounds, seems to afford a probable explanation of their kinship.

Insanity in no form shows more conclusively the

* See THE MEDICAL RECORD, October 15, 1870.

* This hypothesis relieves the ganglionic cells of the cerebral hemispheres from the double duty of ideation and emotion.

† Dr. Carpenter relates, in speaking of Braidism or artificial somnambulism, that on an occasion he saw a blow which was struck alight by chance upon a second hypnotized subject within reach; the latter's combativeness being thereby excited, the two closed, and began to belabor one another with energy, and were with difficulty separated. Their passions were at the moment so strongly excited that even when separated they continued to utter furious denunciations against each other. (*Principles of Human Physiology*, 7th ed., p. 668.)

propriety of reckoning it amongst the diseases of the body than the mental disorders of the epileptic. And yet how little is the important principle of material disease being connected with derangement of the mind either recognized or understood. The somatic element has been thrust into the background by the psychical element, to the great prejudice of a successful study both of the nature and treatment of insanity. Pure metaphysics has utterly failed to teach us anything real and useful concerning the workings of the human mind in health and disease, notwithstanding that some of the mightiest and acutest intellects of the world have been engaged on the great problems of mental science.

The late Professor Griesinger, in his Introductory Lecture at the opening of the Clinic for Nervous and Mental Diseases in the Royal Charity Hospital at Berlin, on the 1st of May, 1866, boldly said: The diseases of the nervous system form one inseparable whole, of which the so-called mental diseases embrace but a moderate proportion. This position is by no means one which has been accepted as a matter of course. It is a scientific gain of the present day, the recognition of which will cause great changes, remove many errors, and must open up new developments in all directions. Dr. Maudsley holds the same language: "It is impossible," he writes, "that the true conceptions of mental disease can be acquired until men cease to regard its phenomena entirely from a psychological [*i. e.*, metaphysical] point of view, and consent to study them by aid of the established principles of physiology and pathology."

Such are the opinions of those teachers of mental science, in the spirit of modern thought, with whom it is my privilege to think alike. They show us the necessity of escape from what Dr. Whewell called "the thraldom of mere words," and of bringing the study of the mind, both in health and disease, within the limits of natural knowledge.

I know full well the prejudices which this method of investigating mental phenomena has to meet, and that those who teach it may be charged with materialism, the common cry of ignorance and intolerance, when they assault or run to cover. No accusation is more false. Mr. Huxley has most happily put it, that materialism involves a grave philosophical error, and every thoughtful man must repudiate it. Virchow has somewhere said: "There is a materialist dogmatism, as well as an ecclesiastical and an idealist dogmatism, and the materialist variety is certainly the more dangerous, because it denies its dogmatizing character and puts on the cloak of science; because it professes to be scientific where it is merely speculative, and because it strives to extend the limits of physical study to matters where this is evidently incompetent." In overstepping its proper and limited sphere of inquiry, and seeking the Unknowable in the "Whence? Why? and Whither?" it becomes the "science falsely so called" of the apostle, and will surely bring up in the materialistic slough. Whatever may be the quarrels between science and sacerdotal theology, true science has never assailed or discredited religion, and there is really no disharmony between them, for they have a common goal, Truth. In the peroration of the recent Gulstonian Lectures on the Unity of Mind and Body, by Dr. Maudsley, you may read these eloquent sentences: "To reckon the highest operations of mind to be functions of a mental organization, is to exalt, not to degrade, our conception of creative power and skill. . . I know not why the Power which created matter and its properties should be thought not to have endowed it with the functions of reason, feeling, and will, seeing that whether we discover it to be so endowed or not, the mystery is equally incomprehensible to us, equally simple and easy to the Power which created matter and its properties. No, science has not expelled the Divine from Nature. The grave of each superstition which it slays is the womb of a better birth."

If, then, the new philosophy, offspring of the bridal of physics and metaphysics—materialism and idealism—means the spirit of Truth, let us rejoice over the union, and honor the fruit. There can be no inevitable antagonism between science and religious thought, for science leads us to contemplate and love the

Fair humanities of old religion.

In spite of its detractors, scientific culture has its spiritual aspects. Nature, Sir Thomas Browne tells us, is the art of God, and the poet declares that

An undevout astronomer is mad.

Let us now briefly consider the medico-legal relations of our subject.

I know of no cases where you may be called upon as an expert, which will so often require nicer discrimination, fuller knowledge, and more patient investigation than to decide on the moral and criminal responsibility of an epileptic. Whilst in many instances the kind and degree of mental unsoundness are so undeniable as to be readily admitted, there are a number, where you will be beset with difficulties, and may have to encounter the sneers of the court and of counsel about "the theories of the doctors," "scientific hypothesis," and so forth, and hear a judge charge a jury directly in the face of facts.

In some cases it would seem that while the criminal may have had an irresistible impulse to commit crime, the law has an irresistible impulse to punish him. For though the law may be the perfection of reason and common sense, it would sometimes seem as if the exceptions exhibited were intended to prove the truth of the dictum. From the recklessness in the use of the plea of mental unsoundness in cases of homicide, it has come to be regarded with a good deal of suspicion both by the courts and the public. Great and good men, like the late Archbishop Whately for example, have advocated the hanging of all who pleaded insanity in cases of homicide. Besides, you may have at times to encounter one of those moral epidemics which suddenly burst out in a community, and demand a victim to stay its progress, and allow the mass of society to fall back into its accustomed state of indifference respecting crime. In these acute paroxysms of homicidal mania, public vengeance will not willingly be baulked. The case of Bisgrove, the epileptic homicide, of which I have already made mention, most strikingly illustrated this; and the savage vituperation of those who succeeded in saving the life of this miserable imbecile, by some of the leading London newspapers, which roared like young lions, was most discreditable.* It is an unpleasant position for the expert to be put in, but if he has his convictions he must stick to them, be self-forgetting and do his duty; and trust to living down the unpopularity he will be sure to earn.

Are all epileptics who have committed a criminal act to be considered, necessarily, as insane, and consequently irresponsible? Should the proof of being subject to epilepsy alone insure acquittal? I do not believe that the simple fact of an individual being subject to epilepsy will ever come to be admitted by legists as naturally divesting him of responsibility for his acts;

* A judicial murder has just been committed in England, under the influence of this acute homicidal frenzy of communities, in the case of Margaret Waters, the baby farmer; for however horrible her crime, it is quite clear that she was only legally guilty of manslaughter.

and the medical expert who maintains such a doctrine runs the risk of seriously compromising himself. In some cases, as I have said, the state of mental deterioration or perversion is such as not to admit of question; lasting traces of the disease leaving its mark on the mind. Again we meet with epileptics who are fulfilling all the duties of life, and whose real condition is not suspected; it is hard to assert that these persons are absolved from moral responsibility. We should be wrong then in always arriving at the conclusion that an epileptic is necessarily deprived of moral liberty, and therefore may claim immunity from the consequence of a culpable act. He may, in committing the offence, have obeyed some interested motive, and there may have been criminal premeditation, and at the time of the act full power of self-control, so that he could have refrained from the act had he liked so to do. You may have, then, no small difficulty in distinguishing the responsible criminal from the irresponsible lunatic. The mere fact of the commission of extravagant and vicious acts by an epileptic is not sufficient to divest him of responsibility and secure to him immunity for his acts. There must be proof and demonstration, beyond reasonable doubt, of his inability to control his vicious instincts. It must be shown, to quote Mr. Erskine's language, that "the act in question is the immediate, unqualified offspring of the disease." And you should always have in mind that you are bound to protect the rights of society as well as the rights of individuals. A general plea of insanity should not therefore absolutely protect every epileptic against the consequences of his act. A careful inquiry is to be made into the circumstances of each case, and the evidence thoroughly sifted. The period of the seizures should be learned; whether near to or remote from the time of committal of the act charged; the slowness or rapidity with which the seizures are recovered from; the mental state during the intervals—are all to be fully considered before you can decide whether the accused has been the victim of horrible imaginings, or yielded to a criminal suggestion of his free will.

There is a source of error, which I believe to be much more frequent than is supposed. I allude to those cases where the mental troubles follow nocturnal attacks. The examples are very many, and show how often proper inquiry is overlooked and what mistakes may follow, involving the liberty or even the life of the individual.

The following case is an apposite and instructive one, and points directly to possible oversight and error. I was lately consulted by a middle-aged gentleman, who told me that for a while he had been at times terribly affected in his mind, and in this wise: Without warning or any immediate provocation he would suddenly have the most horrible homicidal impulses towards certain persons who either really, or at the moment, he imagined, had injured, or slighted, or offended him. In his room, or in the street, or crossing a public square, the fit instantly seized him, and fancying the supposed evil-doer before him, he would strike at him with some fantastic murderous weapon—stabbing him in the neck, or breast, or belly, with a sharp instrument, or giving a blow on the head with a blunt one, the act being accompanied with the most violent reproachful language. He said he was not aware that in the street, or when any one was present, the gestures or speech were more than subjective; but if alone he knew that he spoke aloud, and suited the words to the action. The fit over, he always felt very much exhausted, with more or less loss of muscular power, particularly, recently, of the left extremities. Although occasionally in the company of some of the menaced persons, he had never at such times felt any disposition to harm them, or to behave towards them in any way that showed the feelings he at periods involuntarily experienced regarding them; but he was tormented by the apprehension that the time might come when he would be attacked whilst in their presence, and thus commit some horrid crime. He was a man of high moral tone and Christian training and practice, irritable, subject to temper-fits from childhood, but naturally of an amiable and generous disposition. He was greatly distressed at his infirmity, had for some time concealed it, and at last, dreading the possible consequences, sought advice. He said he had more than once decided to go voluntarily to an asylum, but was withheld from the fear of exposure and injury to his prospects and family. I found out in the course of my examination that he had had also at times suicidal thoughts, or, rather, that more than once the idea of the effects of the several methods of self-murder had been, as he said, irresistibly obtruded on his mind, and particularly the immediate sensation of a discharge of a pistol in his mouth; but, as he observed, he had never seriously meditated at any time suicide; it was rather, as he called it, an æsthetical contemplation of the means of self-destruction, without any especial desire to practically test them on himself. Although he had had many vexations from pecuniary losses and general bad luck, he was usually cheerful, not cast down by, nor given to brooding over, his troubles; and performed the daily duties of his calling, which did not demand any very great mental strain, easily and creditably. He had no headache, and his general health was excellent. After one of these spells his left arm would feel weary and his left leg weighted, along with some numbness and tingling in the parts; these sensations would soon pass off. He had had neuralgic attacks occasionally for many years, but they had become lighter and rarer. He never had suffered from epileptic fits, or, as he thought, anything like them; nor had any of his family. One day he asked me to prescribe something for a sore tongue, and on examination I found evidence of its having been bitten, which led me to believe that he was subject to nocturnal attacks; and on being questioned he admitted that often before falling asleep he had remarked that his jaw snapped, and sometimes his limbs jerked. I looked upon these phenomena, apparently so insignificant, as really the key to the psychical troubles, and the effects of treatment have tended to confirm the opinion.

An epileptic may have his attacks at long intervals and immediately after one of them have an irresistible disposition towards some criminal act, and then become apparently sane. Here we may have no indication to account for the morbid impulses if the antecedents are not known, or are overlooked; and an error in such cases is very possible if we form a judgment only by the present condition of the accused.

Delasiauve relates the following case in which epilepsy was not suspected for some time after the criminal act. A man had been confined in the Bicêtre as insane; soon after his discharge he killed his wife; he was acquitted on the ground of his previous temporary attack of mental alienation, and recommitted to the hospital. At this time there was no suspicion of epilepsy, and it was only subsequently discovered that this man, whose mind seemed perfectly sound, and continued apparently so up to the period of his death many years afterwards, had long suffered from nocturnal seizures. In this case there was a strong motive for the act, the murder having been committed under the influence of jealousy, and though he was of apparently sound mind at the moment of the deed, he escaped on

the plea of a previous attack of madness, without the true pathogenetic cause being thought of; and there can be no doubt but that this accidental acquittal was just, for had it not been for his confinement for his antecedent attack of insanity, he certainly would have been held morally responsible and suffered the penalty of the crime. The English law on this very point was laid down by Mr. Baron Bramwell in the trial of Dove, at Leeds, in 1856, in these barbarous terms: "If the prisoner was under a delusion that the deceased had inflicted some injury upon him, and murdered her whilst under that delusion, he would none the less be amenable to punishment."

A young man of good parentage and education was found guilty of the theft of some articles from a store, done at the instigation of his mistress. After he had been a short time in prison he had several epileptic fits, and he was transferred to Bicêtre, and it was then ascertained that he had been subject to them during five or six years.*

Dr. Duménil mentions the case of a young man who had been sent to prison for several robberies. Thirty-six hours after his committal he had a series of epileptic fits; he was removed to the asylum, from which he made his escape, and on the next day was arrested for an attempt at burglary. He relates another instance in point. A soldier, subject to sudden fits of passion, was tried by a court-martial for striking an officer. A medical inquest showed that he had had slight attacks of periodical mania. Dr. D., a long time afterwards, discovered that each of these attacks was preceded during the night by epileptic seizures, of which the man had no knowledge, and which had escaped the notice of those who had for several years slept near him. The same physician mentions that three of his patients had passed several years in asylums before the real nature of their infirmity was found out.

Many of these unfortunates are quite aware of and appreciate their terrible infirmity; they have a correct notion of right and wrong, but cannot control or resist their morbid impulses. They may have a foreknowledge of what will inevitably happen, and beg to be protected against themselves. Marc tells of an epileptic who, after being several times in an asylum, decided to remain there permanently, for his seizures were commonly preceded or followed by transitory fury, and he several times had attempted to kill his wife and servants. These mental impulses are not always irresistible, and may for a time be successfully opposed, but are liable at any moment to be transformed into acts against all the efforts of the will. After a criminal deed the epileptic may use this language: "I was urged on, something forced me, in spite of myself; I understood full well the atrocity of the act I was about to commit. I resisted for a while with all my might, but the time came when the horrid impulse mastered me. I had no power over myself, and had to yield to the horrible suggestion. No sooner was the act done, and I was myself again, than I saw it in its true light, I realized all the consequences, and was horror-stricken at what I had done; I lament my weakness, but I feel that my Will had nothing to do with it."

Now if the great legal test of responsibility—the full knowledge of right and wrong at the time of the act—be applied to such cases, most monstrous injustice would be done, and yet this has been the English law since it was laid down by Lord Hale, and is constantly quoted by leading authorities. As Professor Laycock remarks of this bloody-minded persecutor of old women: "He disregarded in his *dicta* alike the principles of pathology, and of common sense, and of ethics founded thereon." In the trial of Bellingham, for shooting the Right Honorable Spencer Perceval, 1812, Sir Vicary Gibbs for the prosecution maintained: "Although a man might be incapable of conducting his own affairs, he may still be answerable for his criminal acts, if he possessed a mind capable of distinguishing right from wrong. This upon the authority of the established law in all times, which law has never been questioned—upon the authority of the first sages of this country." Lord Mansfield, in his charge to the jury in the same case, said: "The simple question is: whether when he committed the offence he had sufficient understanding to distinguish good from evil, right from wrong, and knew that murder was a crime not only against the law of God, but against the law of the country."

Though in most instances there is no recollection afterwards of what occurred during the fit, there are others in which much method is shown in the madness, and all the circumstances that occurred perfectly recollected.

In the commune of Cravent, Loiret, France, lived the family Piednoir, consisting of a man and his wife, sexagenarians, and their son, aged twenty-seven, an epileptic. Except some extravagant ideas, the young man had shown no signs of mental derangement, and had always been affectionate towards his parents. On Easter Sunday he had had three epileptic seizures; that night he suddenly, and as quietly as possible, got out of bed, armed himself with some weapon at hand, and going to his mother, who slept in the same room with him, killed her with a single blow. He then went into the adjoining room where his father was asleep, and killed him too. He next attempted to force his way into the adjoining house, but its inmate made her escape, and by her cries aroused the neighbors, who coming to her aid tried to secure the murderer, but he eluded them, and proceeded to the house of a brother-in-law, a mile or two off, where he remained awhile, but made no mention of his deed. He returned home, barricaded himself in the house, and was only finally secured by a ruse. After he had become quiet, he confessed his crimes, the manner of their perpetration, &c.

It has been claimed that the epileptic may be responsible for some of his acts and not accountable for others. Here the debatable question of partial insanity is raised, which has been so stoutly objected to by those who hold to the unity and indivisibility of the mind. Lord Brougham said, using the language rather of a metaphysician than of a practical psychologist, we cannot with any correctness speak of *general* or *partial insanity;* but we may, most accurately, speak of the mind exciting itself in consciousness without cloud or imperfection,

* Since this lecture was in press I have read the following instructive case related by Dr. John P. Gray, in the *Proceedings of the Association of Medical Superintendents of American Institutions for the Insane; American Journal of Insanity*, for October, 1870. A man was tried for the murder of his wife. The plea of insanity was put in, but the counsel having given their entire attention to the fact of insanity, and little or none to the question of epilepsy, the evidence presented did not warrant the experts in considering the case one of insanity or of irresponsibility. During the progress of the trial the accused had a well-marked epileptic seizure in court. Dr. Gray sat beside him at the time, and addressed a note to the judge that the prisoner was in an epileptic state, and unconscious of what was going on. The court immediately adjourned. No witnesses were examined subsequently. The jury found a verdict of guilty, but the judge did not pronounce sentence. The prisoner was committed to an asylum by a later investigation before a county justice, on the ground that he had been an epileptic, was then an epileptic, and was therefore a person of doubtful responsibility. He remained in the asylum for several years, had epileptic fits, and became quite demented. Subsequently he had an attack of fever, and after recovery regained his former health and mental vigor, and at length was in a condition like that before his epileptic seizures. He was retained some years, but had no return of epilepsy. By the repeal of the law under which he was convicted he was discharged. Dr. Gray adds that he has since followed the case, that the man has conducted himself well, is earning a livelihood, and has neither insanity nor epilepsy.

but being morbid when it fancies; and so its owner may have a diseased imagination; or the imagination may be impaired, and the owner may be said to have lost his memory—language not very clear or satisfactory, but meaning nothing if not admitting unsoundness of mind on some subjects, and soundness on others.

The existence of partial insanity is now recognized by all alienists and practical psychologists, and on grounds which cannot be disputed. Even the mediæval Hale admitted that "there is a partial insanity and a total insanity" (*Pleas of the Crown*, 30); but he turned the dictum to the account of his bloody instructions, for he says: "And this partial insanity seems not to excuse them in the committing of any offence for its matter capital; for, doubtless, most persons who are felons of themselves and others are under a degree of partial insanity when they commit these offences." Though the theory is an elastic one, and, doubtless, one that in a criminal case may be improperly and dangerously applied, and frequently is, still it is a great truth of medico-mental science, though but lately proved and accepted generally. That a man may be insane, with an unimpaired intellect, or without the presence of delusions, may be assumed as unquestionable. With good intellection, his moral faculties may be undeveloped from congenital defect, and he may be utterly unable to distinguish good from evil.

You must bear in mind what I have already mentioned, that the morbid mental phenomena may replace the convulsive disorder. The epilepsy may be apparently cured, but the mind-troubles, which have not previously existed, or in a slight degree only, can now become rapidly developed in any of the several forms which I have described.*

Finally the question comes up as to the length of time before and after a seizure, that an epileptic should be considered as irresponsible before the law. Zacchias has laid it down that every epileptic should be held as irresponsible for any criminal act he may commit three days before and three days after a seizure. I think, from what has been said in this lecture, that no absolute rule can be laid down, and that each individual case must be considered on its own merits, and the different circumstances under which the several forms of mental troubles in the epileptic may be developed must be borne in mind.†

In respect to the testamentary capacity of epileptics, I will only detain you by remarking that the general principle which should guide you in any question which may arise is: that the same rules are to be applied as in any case where there is doubt of the mental state of the testator. The fact of his being an epileptic is not to influence the inquiry; though admitting the fact of more or less impairment of the mind of the epileptic, still, and it is generally so, their testamentary capacity cannot be questioned. Actual unsoundness of mind must be unequivocally made out; and, moreover, the connection between the ascertained mental condition and the alleged vagaries or wrongfulness of the testamentary disposition satisfactorily exhibited. Great caution is necessary on the part of the expert, and he should be careful to keep in the investigation his mind free from any bias which the fact of epilepsy may have upon it, otherwise he may become an instrument in the hands of unprincipled persons, to the injury of the innocent and the perversion of justice.

In conclusion it may be proper to say a few words concerning the marriage of epileptics. The only prohibitory enactment that I know of is an edict of a Bishop of Spires, which enforced heavy penalties against such as promoted them. In Denmark, the law permits the dissolution of a marriage if the complaining party was in ignorance of the fact at the time of contracting. Zacchias, Mahon, and the Faculty of Halle, all, in view of protective legislation, incline to restrictions more or less severe. The subject is often an embarrassing one to the physician, but one in which there is a right to his opinion, and from which he cannot escape. A general rule may be stated, that an epileptic cannot marry without danger to himself and the risk of unhappiness to those who should be dear to him. The effects of sexual intercourse are often disastrous to the epileptic.

With respect to the influence of heredity, and how far it is advisable to discourage the marriage of persons the parents of one or the other of whom have been epileptic, I will first say with Calmeil: that prudence requires the parties interested should always be apprised of the risks they run: next, where the epileptic offspring is in good health, and apparently free from all taint, and born a long time after the father or mother has become epileptic, and their attacks were of accidental origin, and other near relatives were free from the disorder, a favorable answer may be given, and probably no evil consequences will cause you to regret it.

* Dr. Geo. C. S. Choate, formerly Superintendent of the State Lunatic Hospital at Taunton, Mass., mentioned, at the Meeting of Superintendents, etc., at Hartford, June, 1870, the case of a young man who had been epileptic from early youth, but had not manifested many symptoms of impaired mind, and had been very docile. He took the bromide of potassium for a year, during which time he had no fits, but his mental condition much worsened, and though cured of his epilepsy he finally became intractable, and he was sent to the asylum, where he is now.

Dr. Gundry, of the Southern Ohio Lunatic Asylum, Dayton, Ohio, at the same meeting, said that a case had come under his notice in which, after six months of treatment by the bromide of potassium, the cry was raised, "you cured him of epilepsy, and the people wish he had epilepsy again, because he is so confoundedly cross they want him to have fits."—*American Journal of Insanity* for October, 1870.

† It has always been a question in legal medicine, within what period before or after a fit, an epileptic can claim immunity for a criminal offence. In cases of this kind, bearing in mind the cases that have been recorded, are we able to fix upon such a period? Is there any time when the epileptic can be considered as clearly free from the pathological effects of the disease? Can he ever commit a crime without being entitled to excuse? At any rate the criminal acts of epileptics should ever be regarded by the expert with great distrust, and receive the most exhaustive investigation. I think he is bound to accept the single alternative, either that the patient has entirely recovered beyond the reach of the epileptic disease, or that he is, in some degree of probability, still suffering from it. He is clearly entitled to the benefit of every doubt (Dr. Isaac Ray—*Proceedings of the Association of Medical Superintendents of American Institutions for the Insane. American Journal of Insanity* for October, 1870.

Original Communications.

LARGE DOSES OF CALOMEL IN URÆMIC POISONING.

By O. H. SMITH, M.D.,

BROOKLYN, E. D., N. Y.

I beg to give you the results of large doses of calomel in the treatment of uræmic poisoning; and perhaps I can do it in no better way than by presenting a few cases in as brief a manner as possible.

When the urine is loaded with albumen, and every tissue in the body poisoned by uric acid, the brain overwhelmed with uræmic intoxication, and a general anasarca comes suddenly upon the patient, something must be done, and done quickly.

It is common to see pregnant women become dropsied about the 7th or 8th mo.; and sooner or later seized with convulsions, while the urine is loaded with albumen. In the same manner we see children, after a mild scarlet fever, become all at once dropsied, and an examination of the urine shows also a large amount of

albumen, and these are the cases that I propose to speak of.

How the calomel does its work, I do not attempt to explain. I am satisfied with the *fact*, and am willing to wait for the explanation until some future day.

Case No. 1. Mrs. M—, in her first pregnancy, became dropsical about the 8th month; the disease progressed until her confinement, when her body and limbs were much swollen. Urine loaded with albumen. During labor she was attacked with convulsions, the forceps were applied and delivery accomplished. The convulsions continued, and she was entirely unconscious for twenty-two hours. This case was under the care of an excellent physician, who desired me to aid him. Dr. Parker was called in consultation, and gave an unfavorable prognosis, saying nothing could be done but to try and lessen the severity of the spasms, and advised the inhalation of chloroform.

After some hours, with no relief, it was decided to give the patient a large dose of calomel, although she was expected to die before the medicine could have time to operate. The calomel (60 grains) was mixed with syrup and passed mechanically into the stomach, being washed down with a few table-spoonfuls of water. This was at 11 P. M., after several hours of unconsciousness. The chloroform was continued through the night at each convulsion, without any apparent relief. During the morning of the next day, the spasms were less frequent, and at 4 P. M. the bowels began to move with large fluid evacuations, while the convulsions became slight, and in the evening she began to show signs of consciousness, as if waking from a deep sleep. The patient went on to convalescence, and is now a beautiful and healthy woman, with several children. This case occurred twelve or fourteen years ago, and is familiar to many, as the patient was a most estimable lady, and had many friends. Dr. Parker saw her again after she became conscious and said the calomel had undoubtedly saved her life, but he could not tell how.

Case No. 2. Mrs. R——, of Greenpoint, ten years ago, nearly nine months pregnant, became dropsical and soon had convulsions. Saw her in consultation with Dr. Davis. Urine scanty and albuminous. She was ordered 20 grs. of calomel, to be repeated in three hours, and followed by cathartic.

Free operations followed, the convulsions ceased, dropsy disappeared, and she went on to a good labor in about two weeks. Similar cases can be given, treated in the same manner, and with like results.

In all these cases there was albumen in the urine, and consequently urea in the blood. No one will claim that calomel, or any other known remedy, will cure granular kidney, or Bright's disease; for here disease has produced a structural change in the kidney. But in these other cases, where we have all the symptoms of Bright's disease, and where death may occur from uræmic poisoning, we find calomel has a curative or controlling influence.

Case No. 3, is a man, Mr. L——, of N. Y. City, aged 50. He was supposed to have true granular kidney, and had been treated for that disease. He was under the care of Drs. White and Drummond, and when he was seized with spasms, several physicians were sent for.

Dr. White sent for me, but failed to meet me on account of other engagements. In order to get this case correctly I wrote to the Doctor, asking him to give me what he could recollect, and here is his reply:

"N. Y., Sept. 9, 1870.

"Dear Doctor—I remember the case, and will give you the particulars as far as I can recall them. I saw the man a few days since and learned what I could from him. He was a policeman, of temperate habits, and had been under treatment six or eight weeks. He had swollen feet, pain across the kidneys, urine scanty, and loaded with albumen. He had considerable general dropsy, and I considered him a bad case, although he was able to come to the office. Wet cups were ordered, and while undergoing the operation of cupping he was taken with convulsions. How many he had I do not know, but he was entirely unconscious, and had been for some hours when I first saw him after the attack. He had been seen by the Police Surgeon, Dr. Purdy, and Dr. J. Smith, of 49th St. They had ordered hot bottles and mustard. I think that was all, for it did not look as if much could be done. You had been gone a few minutes when I arrived and found your prescription: "℞. Hydrarg Sub-Mur. 3 i, one half to be given at once, and the balance in three hours." I gave the first half to him, and whether the other half was given or not I cannot say. But there were most thorough operations during the night, and in the morning I well remember finding him on the vessel, and wonderfully improved. I at that time was much impressed with the case, and I have the belief that the calomel not only relieved his symptoms, but actually saved his life. This was in 1865, and he had good health after for nearly four years, but is now suffering with symptoms of the same disease, and recently was confined to his bed for some weeks.

"I tried the same treatment on a patient with the same disease and in convulsions. Gave thirty grains, and with the same result, *speedy improvement.*

"Truly yours,

"E. White."

I will now give the result of calomel in the treatment of dropsy following scarlet fever. Mr. C. had three children sick at one time, and two, who had the disease in a mild form, suddenly became dropsical. The face, body and limbs were greatly swollen, and both pleural cavities in both children were so filled with water, that they could not lie down without danger of suffocation. The urine was full of albumen, and nearly solid when boiled, in both cases.

Diuretics and diaphoretics had no control over the increasing effusions. At last ten grains of calomel were given to each, and repeated in a few hours, and followed by a cathartic. In a short time the bowels moved freely, the dropsy began to disappear, and good recoveries followed. This was in 1860, and the boys are now fifteen and seventeen years of age, sound and healthy. From that time to the present many such cases have been treated in the same manner with satisfactory results. One more case and I am done. Master L., aged nine, in May last had scarlet fever so mild, that no physician was called until dropsy began to interfere with respiration. The left pleural cavity was nearly filled with water, and the heart embarrassed by effusions in the pericardium. Gave the little fellow twenty grains calomel, to be repeated in two hours, and carried my trocar at each visit, expecting to tap as a last resort. In a few hours the bowels began to move, respiration was slower, dropsy disappeared, and the patient had a good recovery. The urine was quite solid with albumen before calomel was given, and in four or five days hardly a trace could be seen by either of the usual tests. In this last case, no cathartic was given after the calomel, as the bowels moved sufficiently.

I would say that in almost all cases of dropsy after scarlet fever, I have given the Muriated Tincture of Iron, and it is especially indicated after the heroic treatment in the last cases recited.

There is no remedy that I know of, that is so certain to correct that dyscrasia, or diphtheritic state of the blood, which belongs to scarlet fever, as the combination of hydrochloric acid and iron.

I offer these cases, and the treatment, and these hints to the profession, with a simple statement of facts, and leave them to decide how the good work was done within the body. Calomel in large doses does act promptly and powerfully upon some of the secretions of the body, and becomes a great eliminator of the blood.

Recent scientific investigations have shown that mercury does not act upon the liver to increase the secretion of bile, but, on the contrary, less bile is secreted when the remedy is administered.

Will these scientific gentlemen turn their attention to the action of mercury upon the secretion by the kidneys?

When we find the kidneys secreting albumen, and leaving uric acid in the blood, and then we administer mercury, and find the kidneys take on their normal function, and eliminate the urea, leaving the albumen in the blood, we must infer, at least, that the remedy has produced some change in the action of the kidneys.

AMPUTATION AT THE HIP-JOINT.

By T. B. TOWNSEND, M. D.

NEW HAVEN, CONN.

The patient, Mr. B., from an adjoining town, presented himself for consultation in regard to disease of the left femur, involving a portion of the pelvis.

Some thirty years since he sustained a fracture of both bones of the left leg, which was tardy in its recovery, and which was followed from time to time by exfoliation of portions of the tibia, occupying a period of about five years. He recovered the use of the limb, and until some twenty years since had no return of the disease. At the end of that time it presented itself in the lower third of the femur of the same side, and gradually extended upwards towards the body, throwing off occasionally portions of bone of some considerable size, until it reached the pelvis.

At the time of consultation his condition was as follows, viz.: Limb shrunken, with the thigh flexed upon the body, and the leg upon the thigh. Complete anchylosis at the hip, four or five sinuses extending to and communicating with the upper portion of the femur and pelvis, which were discharging a sero-purulent fluid: system much weakened by previous abuses, but a buoyant and hopeful state of mind, with a determination to submit to the operation, and a conviction that it would be successful.

May 25, 1869, assisted by Dr. Jared Lindsley, of New York, and Drs. Harrison and Banks, of Wallingford, and others, I removed the limb by making the anterior flap, and then immediately ligating the vessels; the posterior flap was then made, and the large vessels secured. This procedure I was forced to adopt by reason of the anchylosis. The capsule of the joint was divided, and the bone torn from its socket, fracturing a small portion of the rim of the acetabulum; the neck and head of the femur being in such a state of disease that none of it could be left.

The arteries were found imbedded not in the ordinary connective tissue of the limb, but in a heavy fibroid deposit, which prevented the application of the ligature in the ordinary manner, rendering it necessary to pass a needle armed with a ligature beneath them at a distance from the cut externally, and tying as in the interrupted suture.

At the termination of the operation the pulse was hardly perceptible, and continued so until the following morning, at which time the patient rallied. He commenced slowly to improve, passing through a surgical fever of about two weeks, and gaining strength as the suppuration decreased and the repair continued.

The last ligature came away on the thirtieth day after the operation, but the stump did not heal soundly until after the expiration of four or five months.

At this time, sixteen months after the operation, he is in good health and without any return of the disease.

HYDROCELE IN A FEMALE.

By E. P. BENNETT, M.D.,

DANBURY, CONN.

Hydrocele in females is of such rare occurrence that most authors on surgery fail even to make mention of it, and many physicians claim that it never exists, and in an extensive practice of over forty years but one single case has come under my observation. This case occurred recently in a young married female residing in Putnam county, and was mistaken by a surgeon of some eminence for a case of inguinal hernia, who endeavored to reduce it, but failing to do so, pronounced it adherent and irreducible, and advised to let it alone. That such a mistake should have been made is not at all surprising, as it was a hydrocele of the round ligament coming down through the inguinal canal, and occupying exactly the place of inguinal hernia, and closely resembling one. She subsequently came under my care, and upon inquiry I learned that about five years since a small tumor had made its appearance, which had slowly and steadily increased in size until it had attained its present size, which was about as large as a turkey's egg. It had not been painful, was not attended with abdominal disturbance, had never receded when decumbent, and gave to the touch a feeling of fluid contents, instead of the doughy feel of hernia, and I therefore thought that, whatever it might be, it was not hernia; and upon a closer inspection I diagnosed hydrocele of the round ligament, although it was not diaphonous. So sure was I of a correct diagnosis, that I at once proposed an operation, to which she readily consented; and with the aid of a professional brother, who coincided with me in my diagnosis, I proceeded to cautiously lay open the sac, when we found to our great satisfaction that we had not blundered in our opinion. The serous contents of the sac having been evacuated, I injected it with a saturated tincture of iodine, and she speedily recovered, without the supervention of a single unpleasant symptom. This case is only important from its rarity, and the fact that most physicians are not aware that hydrocele can, or ever does, occur in the female; and my object in writing this article is not to record any remarkable achievement in surgery, but to call the attention of physicians to this subject, and thereby prevent mistakes which might be attended with disastrous results.

Syphilis a Cause of Abortion.—James T. Whittaker, M.D., Cincinnati, Ohio (*Am. Journ. Obstetrics*), after citing the different gynecological authorities upon this subject, says:

"From the very complexity of opinions it may be gathered that no constant anomalies of the placenta have been detected as yet in syphilis, though it still remains the opinion of all modern obstetricians that this is one of the most frequent causes of abortion, while the cases of congenital affection leave no room for any doubt of the possibility of intra-uterine transmission."

ON VIBRATION

CONSIDERED AS

A MECHANICAL INFLUENCE IN PROMOTING THE CAPILLARY CIRCULATION.

By A. F. A. KING, M.D.,

OF WASHINGTON, D. C.

The author of this article requests the reader to perform for himself the following experiment:—Take a small glass tube, such as is used for making pipettes, and heat it in the middle over a spirit-lamp. When the heated part becomes soft, pull the tube asunder as *rapidly* and *violently* as possible. Each half of the tube has now a fine capillary extremity. But it is *too* fine. Cut off a portion until the canal of the tube becomes easily visible, or until liquid that has been drawn into it by suction can be forced out by applying the mouth at the square end, *not in drops but in a continuous stream.* Now fill the tube, and, if it is properly constructed, on holding it vertically with the point down, not a drop of liquid will escape, for the capillary attraction of the tube overcomes the force of gravitation. The tube—still full, or partly so—is now to be placed horizontally, and held, *not very firmly,* by the square end, between the thumb and finger of the left hand. If the outside of the tube is now wetted, and the thumb and finger of the right hand (also thoroughly wet) are rubbed with some delicacy back and forth on opposite sides of the external surface, so as to cause vibration in the tube (just as we produce musical vibration in a tumbler by rubbing the finger over its moistened brim), the liquid in the tube will be projected in a visible stream from the pointed end *to the distance of two, three, and some particles of it even four feet.* The better to appreciate the distance, let carmine or ink be used instead of water, and have the tube directed over sheets of white paper spread out to receive the spray. If, while the tube is being rubbed, it is pressed against the edge of a table or some other hard body, so as *to interfere with its vibration,* the ejection of its contents is immediately stopped. The presence of air in the pointed end of the instrument, instead of liquid, also spoils the experiment. The narrow end of the tube being curved, crooked, or turned at right angles, makes but little difference to the result. It may also be observed that the stream projects with greater force when the wetted thumb and finger are being passed *towards* the point than *from* it, and for the reason that, in the former instance, the vibrations are made to concentrate or accumulate towards the pointed end. A number of other interesting facts might be mentioned, which the reader who wishes to pursue the subject may obtain for himself by using tubes of various size and shape, or pointed at both ends, or with liquids of different consistency and specific gravity, &c. Tubes thrown into vibration without any liquid project a feeble stream of air. Other results, some of them quite curious, may be obtained by working with colored liquids under water.

In submitting these experiments to Prof. Henry, of the Smithsonian Institution, to Prof. Schaeffer, of the U. S. Patent Office, and to some other scientific, as well as to many medical gentlemen, I have been gratified to learn that they are altogether original; nor am I aware that the effect of *vibration as a motor-power* has ever before been recognized.

But before the facts thus made known can be considered as elucidating the doctrine that vibration is an auxiliary motor-power in promoting the capillary circulation, it is necessary to prove:—First, that *elastic* tubes, like the blood-vessels, have the same effect upon their contents, when caused to vibrate, as *inelastic* glass ones; and, second, that the vascular tubes of the body really *do* vibrate. In proof of these propositions experiments are yet wanting;* and while it is improbable that the blood-vessels are made to vibrate, under any circumstances, with the same intensity as a glass tube when used in the manner above described, yet it is more than likely that, had we the same facilities for measuring infinitesimal degrees of force as we possess for rendering visible infinitesimally small objects, a certain amount of vibration might be discovered in the vascular capillaries under the various circumstances presently to be mentioned.

At any rate we already know, speaking in a general way, that a body moving slowly over a surface with which it is in contact, whether within a tube or on an open plane, will have the velocity of its motion increased when the surface along which it moves is jarred or vibrated. Familiar illustrations of this must occur to us all. A not inapt one is often furnished during microscopic examinations; we have only to tap or jar the instrument when a blood-corpuscle or other cell is passing slowly over the field, and it at once darts rapidly on, often beyond the scope of surface under examination.

Now, when a white blood-globule is (so to speak) lazily wending its way along the interior wall of a capillary vessel, or when a red corpuscle is elongating itself while passing a capillary too small to admit it in a globular form, or bending its elastic substance while rounding a capillary angle, or when (according to Conheim) a globule is in the act of insinuating itself through a pore in the capillary wall, why may not each and all of these processes be accelerated by the vibrations imparted to the vessels, and to the body in general, from the physical shocks that occur during ordinary exercise? In the simple act of walking, every step brings the os calcis to the ground with sufficient force to cause a vibration through the entire bony frame, and which must be felt, to a certain extent, in the remotest capillary and other tissues. The stroke of the blacksmith's hammer and the woodman's axe must produce a still more decided effect, and so of most other physical exercises, not excepting horseback, carriage, and railroad travel, &c.

But most of all must we note the vibration necessarily generated both in the column of blood and in the walls of the vessels, not only by the contractions of the heart, and the sudden closure of its valvular openings, but also by the shock of its apex-beat against the chest wall. In the lungs we may cite an additional important source of vibration, viz., that caused by singing and loud speaking, especially when, as is usually the case in the practice of such exercises, the walls of the air-cells, together with the capillary vessels ramifying upon them, have been first stretched to a high degree of tension by a full inspiration. Quite a powerful vibration must be imparted to the pulmonary tissues in the act of sneezing, and it is not impossible that a useful purpose is thus accomplished in hastening the circulation through vessels that are beginning to be congested from the individual having been exposed to cold. The act of laughing may have a somewhat similar effect upon the portal circulation.

Here, too, it may be remarked that the heart and

* To this end, however, I am now conducting some experiments, in the prosecution of which Prof. Henry (whose great experience in such matters affords hope that decided results may be obtained) has kindly tendered me his valuable co-operation.

lungs (organs the maintenance of whose capillary circulation is highly important), which are supplied with the additional sources of vibration just mentioned—the one by the impulse of its own apex, the other by vocal exertion—seem to have been thus provided for because they are as it were *pendant* organs, having no *solid* connection with the skeleton, and therefore likely to be affected in a minor degree only by the shocks imparted to the osseous framework during ordinary physical exertion.

In corroboration of these views we may cite the fact that during *sleep*, when there is a less demand for active circulation of the blood, all these sources of vibration cease except the apex-beat of the never-resting heart; and even with regard to *it*, we observe the shock less forcible in the recumbent posture than in the erect, because in the former the weight of the organ drags it somewhat downwards and away from the thoracic wall.

When the circulation is too active, as in the vascular excitement of inflammation, we enjoin rest (avoidance of vibration), and there is probably no kind of disturbance more intolerable to an inflamed part, or more unpleasant to the patient, than a succession of jars.

Furthermore, that the normal capillary circulation, and hence the general nutrition of the body, are promoted by exercises that insure vibration, appears from the otherwise almost unaccountable good result derived from riding in rough vehicles over uneven roads, and the like. Dr. Parrish, of Philadelphia, Dr. Wood tells us, attributed his apparent cure of pulmonary consumption almost entirely to riding daily over rough pavements in a vehicle *without springs* intentionally constructed for the purpose. Were this really the case, it would suggest the employment of vibrating chairs for invalids or others leading a sedentary life, and of benches similarly constructed for the use of hospitals and schools. The foregoing observations also afford an explanation of the utility of vocal exercises in early pulmonary tuberculosis, as also of the immunity from this disease said to be enjoyed by most great orators, the vocal vibrations maintaining the capillary circulation, and hence the normal nutrition of the lung.

Finally, I have presented these somewhat promiscuous observations thus hastily (but with the intention of rendering the subject more complete at a future time), in order to enlist the interest of physiologists and others, who, better than myself, may possess the facilities and ability to perform experiments in corroboration, or otherwise, of the proposition embodied in the title of this article.

Progress of Medical Science.

A New Method of Effectually Remedying the Defect of Hare-lip.—Dr. William Stokes, Jun., Surgeon to the Richmond Surgical Hospital (*Dublin Quarterly Journal*), presents, with plates, an ingenious operation for remedying the congenital malformation called hare-lip, which prevents the formation of a notch; also gets rid of the chance of that defect subsequently occurring. By his operation he gets rid of all the defects of other procedures, in which, in part or entirely, the principle of the utilization of parings has been adopted. For—

First. No subsequent curtailment of the projection at the lower extremity of the cleft is necessary.

Second. The procedure is applicable to all forms and varieties of hare-lip.

Third. There is no chance of portions of the soft tissues perishing from any twisting of them.

Fourth. There can be no subsequent puckering.

Fifth. There can be no subsequent notch, as previously mentioned.

Sixth. The possibility of any vertical sulcus or groove in the line of the cicatrix is also prevented, which is the case after Sédillot's, Malgaigne's, Samuel Smith's, and other operations.

(The reader is referred to the author's extended remarks upon the operation, accompanied with cuts, which are so interesting and connected that we should do injustice to Dr. Stokes by making extracts.)

As regards the time which is best for the performance of operations for remedying this defect, surgeons are much divided in opinion; some eminent operators maintaining that where it is possible all such operations should be performed before dentition, while others hold that better results are obtained in all cases where the procedure has been deferred until a later period. His experience leads him to adopt the views of the latter class, and his reasons are as follows:—*First.* That the structures at the period of life previous to dentition are so weak, soft, and pulpy, are ill able to bear the continuous pressure of the needles and sutures, and that consequently they are specially liable to the occurrence of ulceration and the subsequent formation of transverse cicatrices. *Second.* The hemorrhage which, even though it be extremely slight in amount, is, in very young subjects, fraught with some danger. *Third.* There is much difficulty in executing any of the plans that have been devised for the avoidance of the defects which sometimes subsequently occur. In support of his opinion he has the high authority of his colleague, Mr. Adams, and the late Dr. Samuel Maclean, who went so far as to assert that, if possible, in all cases operation should be deferred until after second dentition.

Nunneley's Artery Forceps.—In the operation for hare-lip, previous to any cutting with either scissors or knife, in order to get rid of the great annoyance of hemorrhage, which in young subjects is a matter of great moment, and in all cases, when it occurs seriously, interferes with the comfort of the operator, Dr. William Stokes, Jun., of Dublin (*Dublin Quar. Journ.*), invariably applies at each angle of the mouth one of the late Dr. Nunneley's artery forceps, and in all cases he has found that it effectually commanded the hemorrhage. Another advantage of these truly practical instruments is, that they enable the operator to dispense with the aid of assistants pressing with their fingers the lips in these situations, and of necessity impeding the operator to a greater or less extent.

Fractures of Clavicle External to the Coracoid Process Attended by Displacement. — Robert W. Smith, M.D., Prof. of Surgery in the University of Dublin (*Dublin Quart. Journal*), having on former occasions called the attention of the Pathological Society of Dublin to this subject, and demonstrated by numerous dissections that the opinion expressed by several eminent writers, that fracture of the clavicle external to the coracoid process was unattended by displacement, was not sustained by facts, and that the existence of an extra-coracoid fracture was generally indicated by a well-marked deformity, he now reiterates all his previous assertions.

Fractures of the Sternal Extremity of the Clavicle.—Dr. Robert W. Smith, of Dublin (*Dublin Quart. Journal*), publishes five cases of fracture of the sternal extremity of the clavicle (four left and one right), hap-

pening from less than three-quarters of an inch to nearly two inches from the sterno-clavicular articulation, with displacement or deformity.

In order to render the history of the displacement in fractures of the extremities of the clavicle more connected, he reprints upon the present occasion some of the conclusions at which he formerly arrived respecting fractures of the acromial extremity of the bone,—conclusions which subsequent experience has not induced him to alter:

1. In fractures of the acromial extremity of the clavicle, between the coraco-clavicular ligaments, when displacement occurs, it is in general limited to an alteration in the direction of the bone, by which the natural convexity of this portion of the clavicle is increased.

2. In cases of fracture between the trapezoid ligament and the sterno-clavicular articulation, the displacement of the outer fragment is considerable, and is frequently carried to such an extent that the fragments form a right angle with each other.

3. The doctrine of non-displacement in intra-rhomboid fractures has not yet been established upon so secure a basis as to justify its acceptance as a truth.

4. In intra-rhomboid fractures the displacement of the sternal fragment, if it ever occurs, is the exception; that of the acromial fragment, to a greater or less extent, constituting the rule.

5. The explanation is, that the former is firmly connected by strong ligaments to fixed and immovable parts, while the latter is under the influence of three causes of derangement of position, viz., muscular action, the weight of the upper extremity, and the mobility of the scapula.

6. The influence of these causes in producing displacement of the outer fragment is not confined to intra-rhomboid fractures.

7. In fractures of the inner extremity of the clavicle the nature of the derangement of the acromial fragment is uniform, and its direction constant, viz., forwards. The first rib offers a mechanical obstacle to its displacement backwards.

8. The rhomboid ligament, from its direction, would permit of the outer fragment being displaced forwards and downwards, to a limited extent, were the bone broken internal to it.

Paralysis of the Bladder, and Organic Infantile Paralysis.—Walter G. Smith, M.D., Assistant Physician to the Adelaide Hospital, Dublin (*Dublin Quart. Jour.*), refers to four cases of these affections benefited by repeated, and in some cases long-continued Faradization.

In regard to this mode of local application of *induced* currents, no demarcation is drawn between the so-called primary and secondary current. Dr. Smith has never been able to satisfy himself that there is any real difference, and believes that, if we simply keep in mind the greater intensity of the secondary current, and its consequent higher penetrating power, it is practically immaterial whether a stronger primary or a weaker secondary current is employed. He adds, that he is glad to find Dr. Russell Reynolds has arrived at the same opinion.

Hæmatoma Auris.—Dr. E. R. Hunn, of the New York State Lunatic Asylum (*Am. Journ. of Insanity*), has had frequent opportunities of seeing *hæmatoma auris* in insane persons, and remarks that a certain amount of deformity remains in those cases where absorption takes place without rupture, but it is not nearly so marked as when punctured. This affection is almost entirely confined to the male sex, and occurs in those forms of insanity which are incurable; in the great majority of cases the cyst undergoes rupture rather than absorption of the effused blood.

The two powerful idiopathic causes for the production of hæmatoma are: cerebral congestion, and centripetal irritation of the sympathetic system by the emotions.

The local treatment of this affection is a matter of but little if any importance. The constitutional treatment simply resolves itself into the general treatment of insanity itself. He lays down the subjoined conclusions: 1st. Hæmatoma auris consists in an effusion of blood into the space between the perichondrium and cartilage of the ear. 2d. It occurs as a rule in persons who are insane, and is only very exceptionally found in the sane. 3d. It accompanies those forms of insanity which are essentially chronic or incurable, and consequently its presence indicates a very unfavorable prognosis. 4th. It is idiopathic, depending upon a pathological condition of the brain, and is incapable of being produced by external violence alone.

Rheumatism with Chorea.—At a late meeting of the Berlin Physiological Society, Dr. Westphal alluded to the connection between rheumatism and chorea, and referred to cases of insanity, the result of rheumatism, which were complicated with chorea.—(*Am. Journ. of Insanity.*)

Senile Contraction of the Vagina.—Dr. Alfred H. McClintock, F.R.C.S., ex-Master of the Dublin Lying-in Hospital (*Dublin Quart. Jour.*), describes a senile contraction of the vagina which is not a *congenital*, but an acquired defect; neither is it a sequel of parturition, nor, as far as his observation goes, of any inflammatory or adhesive process.

In married women, and especially those who have borne children, the capaciousness of the vagina is very marked in front, behind, and around the cervix uteri, and the finger can be freely passed to the full depth of the vaginal cul-de-sac; and in virgins the finger can be carried around the cervix. This state of things is quite altered by the progressive diminution of the calibre of the vagina—which commences at its summit, and slowly advances downwards. When the contraction has reached the level of the os tincæ, the introduction of the finger into the vaginal cul-de-sac around the cervix becomes quite impossible, this part (cervix) being so closely embraced by the broad ribbon-like stricture. With the persistent increase of the constriction the os and cervix become quite encapsulated, and beyond the reach of touch or sight.

All the cases he has met with were women advanced in years—between fifty and sixty—only one was under fifty; and on this account he is disposed to regard it as some sort of atrophy connected with the decline of life, and the extinction of functional activity in the generative organs.

All his examples of this disease were women. Some had been sterile, but more than half had borne children. Only one patient was a widow; all the others were married, and living with their husbands. In every instance the menstrual function had ceased, even in one of the cases where the lady's age did not much exceed forty years. The chief interest of a practical character which attaches to it has reference to the question of differential diagnosis, from the liability of its being mistaken for serious organic disease of the vagina or uterus.

Dr. Matthews Duncan, of Edinburgh, states, in reply to an inquiry on the point, that he has seen many cases of *senile contraction of the vagina.*

Epithelial Cancer in a Girl of Fifteen Years.—Walter Coles, M.D., Parkersburg, W. Va. (*St. Louis*

Med. & Surg. Jour.), was called to examine a girl, æt. 15, with an obstinate sore on the great toe of the right foot, which proved to be an epithelial cancer, involving the nail. With the concurrence of several medical men he amputated the toe at the first joint. This case presents some interesting points: *First*, in the youth of the patient; and, *second*, in the fact that there is a very clear history of hereditary tendency to cancer in the family.

Paget remarks: "A few cases are on record, transmitted from book to book, in which what were epithelial cancers occurred before adult life. This fact seems to be borne out by statistics, and also that the tendency to the development of this form of malignant growth increases with the advance of age. In this case the patient's half great-uncle on the maternal side died of epithelial cancer of the cheek, at an advanced age; also an aunt on the maternal side, of malignant disease of the uterus."

MANAGEMENT OF CANCRUM ORIS.—There is no patient the practitioner is more solicitous or anxious about than the subject of *gangrene of the mouth*, and Dr. W. S. Edgar, of St. Louis, Mo. (*St. Louis Med. & Surg. Journ.*), invites attention to the prophylactic treatment as all-important. Among the ferruginous preparations the liq. ferri iodidi has his preference in these cases, both for children or adults; it should be given alternately with the citrate of iron and quinine, particularly in malarial regions. The local treatment is no less important; thorough cleansing of the ulcers and mouth twice a day with the nebulizer, using a weak solution of the chloride of sodium or chlorate of potassa; also the permanganate of potassa to correct the offensive odor of the mouth, and stimulate healthy granulation. If any escharotic is indicated, a strong solution of sulph. of copper—xxx gr. to the oz. of water—or paste of permang. of potassa.

EXPERIMENTS ON THE ABSORBENT POWER OF THE BLADDER.—Physicians and physiologists are by no means agreed on the power of absorption possessed by the mucous membrane of the urinary bladder. While some assert that the excrementitious substances of the urine would constantly be carried back to the circulation if this absorption took place, others deny this fact. M. Beclard asserts that the fluids contained in the excretory reservoirs (the urinary and biliary bladders) are in the process of absorption. We should remember that the epithelial lining membrane of these viscera consists of stratified layers of pavement epithelium, which is less easily traversed by fluids than the simple membrane of the serous cavities. Nevertheless, a slight absorption takes place in these organs. The morning urine, which has remained a part of the night in the bladder, is of a darker color than the urine of the day, and also than that which has been passed after taking fluids.

Recent experiments of Bert and Joylet confirm those of M. Ségalas, and demonstrate the fact that the bladder in health rapidly absorbs certain substances introduced into it. A solution of strychnia, one part in one hundred, was carefully injected into the bladders of several rabbits, causing their death at the end of four minutes, although a few milligrammes only of the salt had been introduced, and a part of this had been removed by injections of water on the first appearance of symptoms of poisoning. Autopsy showed that the mucous membrane of the viscus remained healthy. Injections of a solution of atropia did not kill the animal or sensibly diminish the pupil.

The possibility of causing certain substances to be absorbed by the healthy bladder offers a therapeutic resource of considerable importance; in cholera, for instance, where medicines cannot be absorbed by the stomach and intestines, advantage can be taken of the circumstance that the bladder is habitually empty, for the injection of certain solutions which experience has shown to be absorbed. During an epidemic of cholera, M. Brown-Séquard injected into the bladder of several patients laudanum and alkaline carbonates, and he was convinced that these substances were absorbed in considerable amounts. Experiments of a similar character have been tried in Germany and Italy.—*L'Union Méd.*

CANCER OF THE LIVER.—Dr. S. N. Davis, of Chicago, Ill. (*Chicago Med. Examiner*), in an interesting clinical lecture on this subject, gives the following treatment:—Pay particular attention to the diet. Milk and farinaceous articles are the best. Meat should be used only sparingly. For an internal remedy, he has realized the most benefit from some of the arsenical preparations with conium. The following is a good formula: ℞. Arsenite Ioda, gr. iv.; Ext. Conium, ʒ iss. Make a mass, and divide into sixty pills. Sig. Take one three or four times a day.

Anodynes sufficient to relieve pain should be given, selecting those that do not constipate, if possible. Among the best are fluid ext. hops, and lettuce. By such treatment the physician can do much to palliate the sufferings of the patient, and delay somewhat the fatal result.

A HIGHLY RECOMMENDED GARGLE IN SCARLET FEVER.—Dr. James S. Whitmire, of Metamora, Ill. (*Chicago Med. Examiner*), has used a gargle or throat-wash, in this and similar affections, that, in his opinion, is a great improvement over anything that he has seen recommended for this purpose. It is made as follows:—

℞.	Alcohol	℥ ss.
	Elix. of vitriol	ʒ ij.
	Sulph. alum	ʒ j.
	Creasote	gtt. xl.
	Ol. cinnam	gtt. xxx.
	Syrup. simp	℥ iijss. M.

The patient, if strong or old enough, may gargle with this mixture, or the fauces and pharynx may be swabbed by an assistant; and though this mixture will be found to be pretty sharp at first, yet the comfort that immediately follows its use makes the patient not only reconciled, but eager to have it used.

EXCISION OF THE HIP-JOINT.—In regard to this operation, Dr. Moses Gunn, of Chicago, Ill. (*Chicago Med. Examiner*), considers the following points to be well established:—1. The immediate risk of the operation is not great; death, when it occurs, being rarely expedited by the operation. 2. The prospects of cure are greatly influenced by age, the operation being much more successful in childhood than after maturity. 3. When the operation is resorted to, it should be freely executed, and all points of disease, either in the femur or acetabulum, completely removed. 4. A free drain upon the wound should be maintained until healing from the bottom occurs; for healing without suppuration is unattainable, even by the use of carbolic acid, and the presence of purulent accumulations greatly endangers a good result. 5. Only moderate extension during the healing process should be attempted, but that moderate extension is imperative.

SPONTANEOUS AMPUTATION IN UTERO.—Dr. George Pepper, of Philadelphia (*Am. Journ. of Obstetrics*), related at a meeting of the Philadelphia Obstetrical So-

ciety, a case of spontaneous amputation of the right arm in utero. The child was a well-developed female in other respects, weighed 9½ pounds, and seemed strong and well. The arm had been removed at about ¾ of an inch below the elbow; the stump was rounded and well covered, and presented two small depressed cicatrices. The bones could be distinctly traced, and were nicely rounded off. No trace of the hand and arm could be found, though very carefully and thoroughly searched for. The umbilical cord was of normal length and appearance, and there were no fibrous bands or shreds attached to the amnion.

Dr. J. F. Wilson had seen a case about nine months since, where the right arm was removed at the junction of the lower and upper two-thirds. No trace of the limb could be detected.

Dr. Robert P. Harris had seen several cases where the limb was not developed, and in all cases there had been rudimentary fingers or toes.

An Antidote to Chloral.—M. Liebreich of Berlin (*Lancet*) proposes to employ injections of nitrate of strychnia as an antidote in cases where accidents have occurred through an overdose of chloral or chloroform.

Hastening Labor in Cases of Puerperal Convulsions.—J. C. McMeehan, M.D., Cincinnati, Ohio (*Cin. Med. Repertory*), asserts that in the cases of puerperal convulsions he has witnessed, and in all the cases that have been reported, nothing has seemed to have had so good an effect as the delivery.

The line of treatment in puerperal convulsions is plain. Bleeding in certain cases, inhalation of chloroform, cathartics, ice to the head; but, above all, to watch the os uteri carefully, make frequent examinations, and as soon as there is a slight dilatation to rupture the membranes immediately with a trocar, or finger-nail, for the purpose of letting the liquor amnii flow away, and as quickly as possible deliver with instruments. In conclusion, he remarks that there should be no waiting for efforts of nature in these cases, for there is danger in delay.

Constipation of Infants.—Dr. N. S. Davis, of Chicago, Ill. (*Chicago Medical Examiner*), believes much of infantile constipation arises from the lack of the peristaltic action of the bowels, and to stimulate their fibres often uses with beneficial effect minute doses of tinct. nux vomica, perhaps 1 drop; syrup ipecac., perhaps 5 drops; and might add, sometimes, with benefit, syrup rhubarb or tincture belladonna.

Treatment of Malarial Toxæmia.—H. S. Hudson, M.D., of Selma, Alabama (*The Richmond and Louisville Med. Journal*), in an excellent paper on "Malarial Toxæmia," with report of an acute case, recommends the following treatment:—

1st. As cinchona and quinia are recognized as antidotal to malaria, the early and free use of these remedies would seem to be positively indicated.

2d. That the danger of disorganization of the kidneys should be early combated by measures calculated to relieve the congestion or inflammation of these organs. Free purgation and the prolonged and frequent use of the hot bath would, perhaps, best attain this object.

3d. That the frequent discharge of the gall-bladder should be induced, perhaps purgation, especially if produced by mercurial preparations, and the exhibition of liquid food would best accomplish this. Bidder and Schmidt state that this viscus is emptied about two hours after a meal.

4th. That the absence of fluids and urgent thirst point to the necessity of an abundant supply of whatever fluid can be administered, either by the mouth, rectum, or the peripheral absorbent system, calculated to supply this want. Of other remedial measures, stimulation, general and local, would seem to be the one most needed.

The history of the disease as it has prevailed since the year 1867 has been fully and lucidly detailed by Dr. R. F. Michel, in his monograph read before the Medical Association of the State of Alabama, and published under the name of "Hæmorrhagic Malarial Fever."

Remarkable Case of Hydatid Cysts of the Liver.—Dr. White, of Buffalo, N. Y. (*Buffalo Med. and Sur. Journal*), reported, at the June meeting of the Buffalo Medical Association, a case of hydatid cysts of the liver in a female, who was tapped several times between the years 1863 and 1870. The discomfort being insupportable, Dr. White, in the presence of a number of his medical friends, made an incision into the abdominal cavity, and found, a little to the right of the median line of the body, a large cyst filled with forty pounds of offensive fluid, which was drawn off. The sac, containing this fluid, was found to have its pedicle above and attached to the lower margin of the enlarged right lobe of the liver. The patient did not rally from the operation. On post-mortem examination the whole organ, with the exception of a small portion of the left lobe, had no appearance of liver, being rather an agglutination of degenerate growths, in which were interspersed cysts of various sizes. The weight of the liver, with the remaining smaller cysts, was 23¼ pounds. The weight of the fluid removed by the operation was 40 pounds. Now, allowing that four-fifths only of this fluid came from the larger cyst, in other words, that one-fifth of it was blood and ascitic fluid, fifty-five and one-quarter (55¼) pounds would be a low estimate for the weight of this liver with its cysts, which is about fourteen times its normal weight.

This case is reported because hydatid cysts of the liver are very infrequently met with by American practitioners, and because he can find no record anywhere of a liver acquiring anything like the dimensions here described. It is, he believes, unparalleled in size.

Uterine Hemorrhage.—Dr. Tyler Smith recommends a full dose of ergot of rye, immediately after the birth of the child, to prevent hemorrhage.

An Efficient Substitute for the Stomach-Pump.—John T. Hodgen, M.D., St. Louis, Mo. (*St. Louis Med. and Surg. Journal*), has contrived the following simple, cheap, and efficient substitute for the stomach-pump: Attach four feet of India-rubber tubing to a stomach tube, fill both with water by simply dipping it in the liquid end first, then compressing the elastic tube between the thumb and finger to keep the fluid from running out, introduce the stomach tube, lower the outer end of the elastic tube, and the contents of the stomach pour out as readily as if from an open vessel. When the fluid ceases to flow, dip the outer end of the tube beneath the surface of the water, elevate the vessel containing it, and the stomach is soon filled; lower again the outer end of the tube, and the stomach is emptied. This can be repeated as often as is necessary.

The advantages claimed for this simple contrivance are, that it may almost always be improvised, is of speedy and easy application, has no valves to become obstructed or deranged, and is less expensive than a stomach-pump.

The same principle may be applied in injecting fluids into the bowels, as it has been for injecting into the bladder, uterus, and vagina.

THE MEDICAL RECORD.

A Semi-Monthly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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New York, November 15, 1870.

THE NEW MATRICULANTS.

THE various medical colleges have filled their lecture-rooms with students, and the fall and winter courses are in full operation. The introductories have been delivered after the good old fashion, and although in the main wearisome and trite to most individuals have doubtless proved interesting, suggestive, and encouraging to the matriculants. The advice offered, although stereotyped, has been sound, and, if accepted and appreciated by those for whom it has been intended, cannot fail to produce good results. But it is one thing to receive counsel, and another thing to be able to follow it. This truism applies with a particular force to the majority of young men who habitually engage in the study of medicine.

The obstacles in the way of their success as students first, and practitioners afterwards, are sufficiently numerous. Not the least of these is the manner in which they are compelled to prosecute their studies. They are told by their teachers that much time is required to master even the principles of the science, and yet their studies are crowded into an incredibly short period. They are compelled to listen to four or five lectures in the day, attend hospital clinics, dissect, and have private examinations, and be expected to find time to study besides. Each department is taught by an expert who, being anxious to crowd the greatest amount of material in the time allotted for his course; imparts the information in the most concentrated form, and at the end of the term the learner is expected to be better informed on all the different branches than is any single one of his teachers. The responsibility of thus crowding the students rests entirely upon the faculty, and is not favored by other members of the profession not interested in the size of medical classes or the amount of fees collected in a given space of time. Very many attempts have been made to correct this abuse, but, as is well known, to very little purpose; in fact such endeavors have made matters worse, by the formation of extra chairs without a proportionate extension of the lecture term. But it is sufficient to know that whatever might have been done has not been accomplished, and that the student is the sufferer for the want of one of the main elements to his success, one of the principal conditions the necessity of which is in theory so strongly recommended by his teachers. Under the present circumstances the student is compelled to make the most of his situation, and strive to do the best he can to accomplish the result at which he aims.

The character of the studies, and the manner in which they are pushed, proves the necessity of the possession of a mind which shall be quick to appreciate facts, and equally ready to appropriate them. This involves the indispensability of a very careful preliminary education,—a quality notoriously wanting among young men undertaking the study of medicine. We have always insisted that none but those who have enjoyed the advantages of previous culture should attempt to enter our ranks. This assertion has been made in the face of some brilliant exceptions to the rule. We all know of men who have left the plough and the shop, and entered directly upon the study of medicine with ultimate success, but the results of their endeavors only prove the possession of an extraordinary amount of application and capability, qualities which are rarely found combined. In fact, the exceptions are plainly made to substantiate the original proposition, as they tend conclusively to show how much better they would have succeeded had they enjoyed previous educational advantages. Again, we are warranted in saying, in this connection, that the occurrences of the past are not, as regards the rapid progress of our art, to be accepted as criteria for the future. The position of the student of our science at the present day is widely different from what it was years ago. The requirements of a general practitioner in olden times were merely nominal compared with what they are now. Then the stethoscope was a novelty, the microscope was rarely if ever used, the ophthalmoscope, laryngoscope, endoscope, thermometer, æsthesiometer, and sphygmograph were hardly dreamt of; now, however, all have become such absolute necessities in the different departments of our art that not to have some knowledge of their application is to plead unpardonable ignorance. Formerly the medical student restricted his studies to his anatomy and practical medicine; now he is expected to be conversant with text-books upon every department of our science. The student of a quarter of a century ago without a previous education might succeed, while the student of to-day is quite sure to fail. And yet, strange to say, notwithstanding so much more is now required of medical students in mental capacity to appreciate the multitude of important facts accumulated, they are not much if any better prepared to commence their work than were their brothers a half century ago.

The young man who now starts as a student of medicine without a preliminary education is a mistaken individual. If he imagines that in spite of his previous deficiencies he can make his mark, he has no

appreciation of the hard study before him. But, after all, he is not accountable for the delusion under which he may labor. The true responsibility rests with our medical teachers, who, no matter what they may say to the contrary, are practically ignoring the necessities of proper preparation by admitting to lectures every one who may choose to come. If the student had previously any misgivings as to his fitness to enrol himself as a matriculant, they are at once dispelled by the willingness, nay, eagerness with which he is accepted. There is not enough said, on the part of the faculty, regarding the necessities and the advantages of preliminary education, as there is too much danger of frightening the students from the school. The number of those possessing baccalaureate degrees is so small, that were only such accepted the class in attendance would be numbered by the score instead of by the hundred. And if it were, would the profession at large suffer? The profession, we think, would be willing to run the risk. What if the aggregate number of graduates should be lessened by such restrictions; would not the loss of the colleges be the profession's gain? Our ranks are crowded, but there is always room for good and well-trained soldiers. We can spare the ignoramuses, but we wish to welcome the properly educated. Every incompetent man who enters our lists is a reflection on the cause, and no right-minded practitioner, in view of such a fact, can help feeling a solicitude when he asks of the respective colleges now in session, How many of your number are properly prepared to enter upon their medical studies?

Reviews and Notices of Books.

A TREATISE ON PHYSIOLOGY AND HYGIENE for Educational Institutions and General Readers, fully illustrated. By JOSEPH C. HUTCHISON, M.D., President of the New York Pathological Society, Vice-President of the New York Academy of Medicine, Surgeon to the Brooklyn City Hospital, etc., etc. New York: Clark & Maynard. 1870. 12mo., pp. 270.

THIS work is designed mainly for a text-book in schools and academies, and consequently treats of the various subjects connected with physiology and hygiene in an elementary manner. It is written in a wonderfully concise style, and, for a work of its size, we are surprised at the amount of useful information it contains. The descriptions of the various apparatus and their functions are rendered practically interesting to the young student by the skilful interpolations of many very valuable collateral hints, comparisons, and facts. The illustrations are admirable and well chosen, and with a copious glossary leave nothing to be desired in the way of making every part of the work perfectly intelligible to the merest tyro. We unhesitatingly recommend it to the teachers of the young as one of the best works of the sort that has been published, and predict for it a well-deserved popularity.

PRACTICAL ANATOMY; a Manual of Dissections. By CHRISTOPHER HEATH, F.R.C.S., Assistant Surgeon to University College Hospital, etc., etc. First American from Second English Edition, edited with additions by WILLIAM W. KEEN, M.D., Lecturer on Pathological Anatomy in the Jefferson Medical College, etc. Philadelphia: Henry C. Lea. 1870. 12mo. pp. 572. (Sheep)

In adapting this popular Dissector to the wants of the American Student the Editor has made some very necessary modifications and additions. The order of dissection of the body in Great Britain is essentially different from that observed here, and it has been altered accordingly. This is certainly a very commendable feature of the work. The additions are numerous, both as regards matter for the text and illustration, and all are of a practical character. Among the former, we notice the incorporation of the researches of Duchenne as to the actions of the omo-hyoid and supinator longus muscles, the observations of Cielland on the ligamentous action of muscles, of Luschka on the nervous supply of the arytenoid muscles, and directions for preserving and injecting subjects. The illustrations are excellent and numerous.

THE PHYSICIAN'S VISITING LIST for 1871. Philadelphia: Lindsay & Blakiston.

THIS useful pocket companion preserves its well-known form, and is arranged respectively for twenty-five and fifty patients weekly. We believe it to be the most complete list published.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

STATED MEETING, OCT. 12, 1870.

DR. J. C. HUTCHISON, PRESIDENT, in the Chair.

MAMMARY CANCER—THE INDICATIONS FOR REMOVAL, ETC.—DOES AMPUTATION EVER DO MORE THAN TEMPORARILY ARREST THE DISEASE?

DR. FINNELL exhibited the left mammary gland removed by operation from an unmarried lady, aged forty-two. About two years ago she began to suffer from pain in the organ, coincident with which was the formation of a tumor. This latter gradually increased, as did also the distress. At the end of a year from the commencement of the disease its malignant character was recognized and amputation advised. The operation was not, however, permitted until Sept. 28. The nipple suffered the characteristic retraction. There was no enlargement of the axillary glands. In consequence of the extent of the disease it was thought best to remove the entire organ, which was done. The wound was closed with eight silver sutures, and the dressing referred to at the last meeting (carbolic acid, lime, and sweet oil) was applied. Dr. Rogers examined the specimen and pronounced it scirrhus.

In connection with this case he asked the opinion of the members present as to the justifiableness of removing malignant tumors of the breast. He was aware of a great difference of opinion upon the subject among different surgeons. His principal guide was the amount of pain which the patient experienced. He also asked the question concerning the utility of the operation as the arrester of the disease.

DR. HUTCHISON remarked that he invariably amputated breasts the subject of malignant disease when there was great pain, and when there were no evidences of the disease having extended beyond the mammary gland.

DR. EAGER stated that he amputated in March, 1866, the breast of a woman from Livingston county. The disease was scirrhus. That patient did well for four-

teen months, at the end of which time she died, in consequence of the transfer of the disease to the lungs.

Dr. Finnell recollected hearing the late Dr. Kearney Rodgers say that he had removed a bushel basket full of cancerous breasts, but that he would never perform the operation again.

Dr. Hutchison had seen a great deal of distress occasioned in cases of cancer of the breast by the application by ignorant persons of powerful caustics. He had seen one case in which the sloughing thus occasioned was sufficient to cause death. He is in the habit, when consulted for treatment of these tumors of the breast, to lay all the facts before the patients, stating to them that he has operated many times, and that, with a single exception, the disease had reappeared. If they understand all these facts and insist, as they generally do, upon the operation, he prefers to perform it rather than allow them to fall into the hands of quacks.

Dr. Mason asked what was the longest period that had elapsed between the operation and the reappearance of the disease. He had a case under observation which had been operated upon two years ago, and there was still no evidence of a return of the disease.

Dr. Eager referred to one patient of his from whom he had removed the mammary gland nine or ten years ago, who is still living. Subsequent to this operation he had performed two others, for the removal respectively of enlarged axillary and cervical glands. He also recalled a case upon which he had operated for removal of cancerous axillary glands, five years and four months after Dr. George Blackman had removed the breast for the same disease. The patient did well for six months, when she died, in consequence of the reappearance of the disease in the lungs.

Dr. Hinton remarked that the metastasis of the external disease to an internal organ was so much the rule that it had been used as an argument for the operation.

Dr. Finnell stated that he had removed both mammary glands, for supposed scirrhous disease, fifteen years ago. That patient is still living. From the circumstance of this long immunity, he was inclined to question the integrity of the diagnosis. Again, he had a patient, a neighbor of his, aged seventy-eight, who was in reasonably good health, and from whom the late Dr. R. K. Hoffman had removed, twenty years ago, a breast supposed to be cancerous.

Dr. Eager removed a breast in 1853, from a woman in Bayard street, and up to 1864, when she moved to Michigan, she was in good health. The disease was pronounced to be cancerous by the late Dr. Valentine Mott and several other surgeons, all of whom considered the case so desperate a one that they declined to operate. The patient then presented herself to the Dispensary; and avowing her determination to have some one remove it, and a consultation of the staff deciding in favor of it, the operation was performed accordingly.

Dr. Rogers referred to a woman, aged fifty-five, who presented herself at the Dispensary, from whom one breast had been removed fifteen years ago, and another ten years ago. She said that the surgeons called it cancer. Another woman had presented herself to his class minus a breast, the organ, according to her statement, having been removed for cancerous disease twenty-five years ago by the late Kearney Rodgers.

A TOE TORN OUT BY THE ROOT, WITH EXTENSOR AND FLEXOR TENDONS ATTACHED.

Dr. Finnell exhibited a second specimen, consisting of the right great toe, attached to which were six inches of the long extensor and twelve inches of the long flexor, with a portion of the corresponding muscle. The whole was torn from the foot of a girl ten years of age, by the toe being caught under the edge of a truck, and being drawn along while the latter was being unloaded of coal.

Dr. Mason remarked that he had seen, at Bellevue, the thumb of a boy that had been torn off, to which was attached a considerable length of the extensor pollicis.

TAPE-WORM EXPELLED BY TURPENTINE.—THE EFFECTS OF LARGE AND SMALL DOSES OF THE REMEDY—TWO OUNCES MAY BE GIVEN WITH IMPUNITY!!

Dr. Freeman, of Brooklyn, presented a tape-worm sixteen feet in length (about four feet of which was in fragments), which had been passed by an English girl, aged thirteen years. She had been treated for tape-worm five or six months ago in England, but without any gratifying result. On the 3d of October, having fasted for twenty-four hours, two ounces of fluid extract of male fern were administered, followed the next morning, she still fasting, by an ounce of castor-oil and a drachm of oil of turpentine. This latter dose was repeated during the day. No portions of the worm were passed. She was let alone until the following Friday, when *two ounces* of oil of turpentine, in half a teacupful of milk, were given, and in the course of three or four hours afterwards twelve feet of the parasite came away, together with forty or fifty small pieces. The case was interesting, as proving the efficacy of the old-fashioned remedy, oil of turpentine. She suffered no bad symptoms from the large dose of turpentine, but the small ones produced more or less strangury.

Dr. Finnell remarked that had the patient died, there would have been no difficulty with a coroner's jury in arriving at a verdict of death from an overdose of turpentine. The remedy, nevertheless, seemed from the results of the case to be well chosen.

Dr. Whitall recalled a case in which he had administered on one occasion an ounce of pumpkin-seed in half a pint of water, and in which thirty-eight feet of the worm had been discharged alive. Finding it necessary, three months after, to treat the patient again for the same trouble, he administered two drachms of the essential oil of felix mas, followed the next day by two ounces of castor-oil. This resulted in the passage of four feet of the tenia, dead.

Dr. Hutchison had some time ago asked Dr. Squibb what was the best remedy for tape-worm, and the reply was, two ounces of oil of turpentine. The remedy in large doses acted as a purgative, but in small quantities, as in Dr. Freeman's case, was apt to produce strangury.

Dr. Hart asked if any of the members had tried the new remedy, Kousso. He had employed it on several occasions with good results.

Dr. Post stated that Dr. Mott used to relate cures of tetanus by drachm doses of oil of turpentine, but such never escaped strangury. Dr. P. thought that the danger of large doses was inflammation of the intestines.

Dr. Freeman remarked that in his case the purgation was not very active, the patient having only three or four evacuations during the day. In answer to a question, Dr. Freeman repeated that he used milk as a vehicle.

Dr. Hutchison replied that Dr. Squibb, having himself suffered from tape-worm, took the turpentine undiluted.

Dr. Finnell referred to a case in which extreme hypercatharsis was induced by the administration of a

drachm of oil of turpentine in an ounce of castor-oil.

Dr. Peters remarked that kousso was used in Abyssinia, where tape-worm was very common, with as much freedom and frequency as was catnip with us. The effects were not, however, very satisfactory, as the cause which produced the tape-worm in that locality—the eating of raw meat—was constantly operating. On the whole he did not think it was any more useful as a remedy than was the pumpkin-seed, male-fern, or turpentine.

URINARY CALCULI—PROFUSE HEMORRHAGE FROM NECK OF BLADDER.

Dr. Mason exhibited some large urinary calculi removed by operation from a man sixty-six years of age, who had suffered from symptoms of stone for the past ten years. The patient was a manufacturing jeweller, and, with a few exceptions, when he had attacks of severe cystitis, attended with copious hemorrhages, he was able to attend to his vocation until two weeks before his death. His urine was milky and ammoniacal, and contained large quantities of mucus and pus. At the time Dr. M. saw him he was compelled to pass his water every three or four minutes, which necessitated the wearing of a urinal. As the result of an examination the patient was told that he had a large stone in his bladder, with one and perhaps two smaller ones, and that besides there was enlargement of the prostate. This opinion coincided with those of other gentlemen who had previously examined the case. The operation of lithotomy was advised, but having lately heard a great deal of the good effects of crushing, he desired the latter operation. Dr. Mason told him that it was feasible to attempt to crush the smaller stone, but not so with the larger one. Lithotripsy was performed upon the smaller stone by Thompson's instrument, and the operation was successful. The next morning the patient felt so well that he went out, and as the result of the indiscretion was attacked with a violent cystitis. This was on the 2d of August. He was then suffering intensely from a constant desire to pass his water. Lithotomy was then advised, as much for the purpose of relieving the tenesmus as the removal of the stone. Dr. Parker, who was called in consultation, unqualifiedly sanctioned the measure. During the afternoon of the 3d of August, Dr. Mason performed the lateral operation for stone. As soon as the bladder was emptied a gush of venous hemorrhage took place. So rapidly did the blood flow that fears were entertained of his immediate death. The wound was opened, but no distinct source for the hemorrhage was discovered. It seemingly came from the neck of the bladder. Ice was applied, but failed in arresting the bleeding; a catheter was then introduced, and the wound plugged with dry lint. It was necessary afterwards to soak the lint in persulphate of iron, but even then the blood did not cease to ooze until the patient was straightened out in the recumbent position, and then the arrest was instantaneous. He rallied surprisingly well from the operation, and went through a short and sharp attack of diarrhœa, but on the fourth day he was seized with the symptoms of uræmic poisoning, from which he soon sank and died. Dr. Mason being at the time out of town, Dr. Carmalt made an autopsy about three hours after death, and found three large roughened phosphatic calculi in the bladder. That organ had its coats much thickened, and its anterior surface was firmly adherent above the pubes. The prostate was not enlarged, but the peculiar position of one of the calculi, in consequence of the bladder being drawn upwards, gave rise to the mistake in that part of the diagnosis. The left kidney, which was the only one that could be examined, was very much enlarged, was fatty, and had undergone cystic degeneration. Both ureters were very much enlarged. The three calculi weighed collectively just twelve ounces.

Dr. Mason, in conclusion, remarked that the patient had, during the last few months of his life, taken regularly Lee's alkaline pill.

Dr. Dalton thought that the latter circumstance explained the presence of the roughened prominence, or extra deposits on the surface, of the stones.

HOW SOON AFTER DEATH SHOULD AN AUTOPSY BE MADE?

Dr. Finnell stated that it was a rule with him never to make a post-mortem examination sooner than six hours after death. He recollected having performed an autopsy a little too soon. Such a procedure, to say the least, was unpleasant. He had frequently noticed that in criminals, even three or four hours after death, it was very easy to produce violent contractions of the muscles by pricking the skin with the knife.

Dr. Dalton remarked that if Dr. Finnell's objection to early autopsies was based upon a fear that death might not have taken place, it was best to fix no absolute rule as to time, but wait until cadaveric rigidity should occur.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, October 20, 1870.

Dr. H. D. Bulkley, President, in the Chair.

The President stated that Dr. T. C. Finnell would be the biographer of the late Prof. Gunning S. Bedford.

PULMONARY TUBERCULOSIS.

Dr. Austin Flint, Sen., then read an instructive paper on "Recent Views in Relation to Pulmonary Tuberculosis," of which the following is an abstract:—

The questions to be thus considered may be divided into those relating, *first*, to the tuberculous products, and to tuberculization; *second*, to the causation of pulmonary tuberculosis; and *third*, to the treatment.

The speaker stated clearly the prominent late views relating to the morbid products which for more than half a century have been called tuberculous, and to tuberculization—these views were from a histological stand-point—and spoke as follows:—

To discuss their merits might seem presumptuous in one who is not a practical histologist. But the great majority of those who are expected either to adopt or reject views founded on histological data are not, and cannot be, workers with the microscope. They cannot be expected to confirm or correct these data by their own observations. They must be content to compare the testimony of different observers, and judge for themselves according to their confidence in the observers. They may be competent, however, to exercise their judgment as to whether the data are sufficient to warrant the views which are thereon based. They may even be better qualified to do this than those who draw deductions from original observations; for experience has shown abundantly that microscopical observations are peculiarly exposed to error from the bias of speculation or preconceived convictions.

With respect to purely histological points there seems to be, for the most part, agreement among practical histologists. Different microscopical observers do not differ as to the appearances under the microscope. But there is not, as has been seen, the same agreement concerning the conclusions: there is much discrepancy in the interpretation of the appearances. Virchow and the disciples of the "cellular pathology" interpret cer-

tain anatomical elements to mean proliferation of normal cells. Robin, Bennett, and others, explain their production by a spontaneous generation. The cheesy metamorphosis, tyrosis, or granulo-fatty degeneration, of which so much has been said of late years, is perhaps inferred rather than proved; it is a mooted point as to the inflammatory or non-inflammatory character of the tuberculous granulations now recognized by many as the only true tubercles. Admitting that the so-called tuberculous infiltration is an inflammatory product, it is not certain that the primary process is an inflammation; at all events, there is room here for doubt and discussion; the relationship between the true products just named is a topic for directly opposite opinions. It is plain that the revelations of the microscope, valuable as they are, have not, as yet, been sufficient to settle these and other pathological questions. Much stress is laid by recent observers on the essential difference between these two products; yet one of the most distinguished of those engaged in the study of tubercle, namely, Villemin, declares that he "thinks" (to quote his own words) "there is ground for returning to the ideas of the great Laennec and the judicious Andral in behalf of the unity of tuberculosis."

It is deemed a highly important object, as a result of late histological researches, to call the affection heretofore known as infiltrated tubercle, a pneumonia. Let it be granted that there is a strict pathological propriety in this, the practical advantage which is gained is not very apparent. The long-established points in morbid anatomy which distinguish this affection from other forms of pneumonia remain unchanged. Here is a product which is absorbed with great difficulty, if at all, whereas the intra-vesicular product in ordinary pneumonia is generally, and often rapidly, removed by absorption. The former leads to abscesses, and to cavities which very rarely cicatrize; the latter seldom ends in abscesses, and when they occur the cavities resulting from them tend to cicatrization. The tuberculous pneumonia is a bilateral affection, the instances in which it is confined to one lung being rare exceptions to the rule; the reverse is true of ordinary pneumonia. On the other hand, contrast the tuberculous pneumonia with the chronic form in which the morbid product is interstitial, and these points of difference are not less striking. If it be resolved to call the affection a pneumonia, some qualifying term, denoting its distinctness of character, is certainly important. The word *cheesy*, or the more refined synonym *caseous*, is objectionable on the ground that for it to have any precision the age and the kind of cheese to which it is analogous should be stated. The name "chronic catarrhal pneumonia" must derive its significance chiefly from the supposition that the pneumonia supervenes upon a bronchitis, which is a supposition, to say the least of it. Tuberculous pneumonia seems the most appropriate term. This term is objected to on the ground that the affection is not always, although often, associated with true tubercles, that is, the gray granulations. To call a pneumonia without tubercles tuberculous, would, of course, be a misnomer. The objection is a valid one only in view of the hypothesis that tubercles or granulations are consecutive to, and dependent upon, the pneumonia; the latter, accordingly, existing for a time without, and in some cases not being followed by the former. Niemeyer carries this hypothesis so far as to say that "the greatest danger for the majority of consumptives is, *they are apt to become tuberculous*"—a curious statement when it is considered that, assuming the correctness of the hypothesis, to determine whether the pneumonia be or be not associated with tubercles, is confessedly rarely within the grasp of diagnosis. As a concluding remark, in connection with this division of the subject, the distinctions and names which have lately been introduced can hardly be said to simplify our knowledge of tuberculous disease. I will content myself, in illustration of this remark, with citing the nosological divisions in the late treatise on Pulmonary Phthisis by Hérard and Cornil—a work of labor and ability, and containing much valuable information.

These authors treat of the following forms of disease as entering into the study of pulmonary phthisis:

1st. Lobar tuberculous pneumonia; 2d. Lobular tuberculous pneumonia; 3d. Generalized granular phthisis; 4th. Generalized granular phthisis, with pneumonia; 5th. Partial granular phthisis; 6th. Acute or galloping phthisis; 7th. Generalized caseous lobar pneumonia. Into these seven varieties are resolved the chronic and acute phthisis of other authors.

The Causation of Pulmonary Tuberculosis.—The discovery by Villemin of the inoculability of tubercle stands out in strong relief among the conflicting and perplexing views which have been noticed. The inoculability of tubercle is a positive indubitable fact, which not unlikely will constitute a highly important epoch in the history of tuberculous disease. Connected with this discovery are certain questions not as yet settled. The specific character of tuberculosis is one of these. In other words, does the matter inoculated, when the disease is thus communicated, contain a special virus? Villemin claims that his experiments prove the affirmative to this question, and establish for tuberculous disease a specific character such as belongs to variola, scarlatina, syphilis, and glanders. His work on tuberculous phthisis is a masterly effort to show this by collateral evidence, as well as by the experiments establishing the inoculability of the disease. On the other hand, Lebert, Wryss, Waldenburg, in Germany, Colin, in France, and Andrew Clarke, Simon, Sanderson, and Wilson Fox, in England, have made experiments which appear to show that inoculation with other than tuberculous products (using this term in its widest sense) is sometimes followed by the development of tubercles in the lungs and different organs. Villemin claims that in these experiments either the products furnishing the matter for inoculation contained the tuberculous virus, or the products following the inoculation were not true tubercles. The settlement of this point by continued researches is evidently of much importance in its bearing on the question as to the specific character of the disease.

From the fact of inoculability springs another question, which need only be stated for its practical importance to be sufficiently obvious. Inoculation proves contagiousness in the strict and proper adaptation of the latter term; but is not the disease communicable by infection? This is the question now referred to. May not material emanations from tuberculous patients be received into the air-passages, and the disease in this way produced? Contagion does not prove infection—a fact of which syphilis is an exemplification—but taking into view morbid emanations which must be contained in the expired breath of patients affected with tuberculous disease, the possibility, if not probability, of its being sometimes thus communicated becomes an important point for renewed clinical study. And, pending the accumulation and investigation of facts, it is certainly a wise precaution to enjoin upon healthy persons, and those already tuberculous, to avoid, as far as practicable, an atmosphere which, from defective ventilation or the congregation of phthisical patients, or both, must abound in the suspected emanations.

From the time of Laennec a tuberculous diathesis has been supposed to be largely involved in the causation

of pulmonary tuberculosis; but, according to the views of some distinguished writers of the present day, this diathetic agency has been greatly overestimated. Villemin repudiates altogether the existence of a diathesis which is independent of the introduction within the system of a special virus. Others, for example Niemeyer, while they do not ignore a constitutional predisposition, think that its causative influence is vastly less than has been supposed, and that a proportionately greater agency is exerted by local exciting causes. The advocates of this view consider that an active, special diathesis does not exist, but only a certain amount of vulnerability (to use a word of recent application) arising from an enfeebled power of resistance to the local causes of disease. This view, in fact, almost does away with a diathetic influence, since the term diathesis denotes a predisposition to a particular form of disease. It has been hitherto believed that tuberculous disease is developed chiefly, and sometimes even exclusively, as a result of a special, determining, constitutional, morbid condition. This is the idea attached to the term tuberculous diathesis. Local exciting causes have been regarded as of secondary importance, being never, in themselves, sufficient to produce the disease, and in many cases not being included in the causation. Here are questions of great practical importance. The teachings of Niemeyer are in strong contrast with the views which have been, and are still, generally held by physicians; and it is needless to call attention to their direct and important bearing on treatment.

These views are to be sustained, or otherwise, not by arguments, but by evidence derived from clinical experience. Is it true that tuberculous infiltration, or pneumonia, as determined by physical signs, is preceded generally or frequently by bronchitis? The answer to this question in the negative purports to be based on clinical facts. So far as one can judge from publications, the affirmative, if not merely a speculative or rational conclusion, is supported, as yet, only by the impressions formed on a limited experience.

The latter answer is a revival of an old belief which has never been eliminated from the popular mind. If the question is to be settled anew, this can only be done fairly by a fresh appeal to clinical observation. It is practicable to settle the question in that way. The existence or non-existence of bronchitis, or a bronchial catarrh, antecedently to the presence of signs denoting tuberculous solidification of lung, is a point which, if the opportunity be offered, a competent clinical observer can determine in individual cases. Until the question is settled in the only way in which it can be settled, let us not accept the new view because it is affirmed, or because it is thought to harmonize with other views.

The remarks just made are alike applicable to the question whether hæmoptysis stands in a causative relation to tuberculous disease. The affirmation of such a relation, no matter by whom made, and the reasonableness of it, or its consistency with other views, are of no moment except in so far as they are sustained by clinical evidence. The question is to be settled by determining whether hæmoptysis, occurring when tuberculous disease does not exist, is followed by this disease in a proportion of cases sufficiently large to show a relation of causation. Clinical observation is competent to determine this point, and, until this is done, it is the part of prudence and philosophy to hold the mind in abeyance with regard to the adoption of this, as of the other of the views just stated.

The Treatment of Pulmonary Tuberculosis.—Within the recollection of the older physicians of the present day, the treatment of pulmonary tuberculosis has undergone an entire change. The measures in vogue thirty or forty years ago, were those which have been known as antiphlogistic, namely, venesection and local blood-letting, mercurialization, and active counter-irritation. With these were conjoined a restricted diet and confinement within doors.

Impartial observers who are able to compare the success of treatment then and now, must bear testimony to a great improvement. The proportion of recoveries is certainly much greater. When recovery does not take place, the disease is much oftener non-progressive, and, when not stationary, its progress is more slow. Death is not so often preceded by a long period of confinement to the bed and suffering from extreme debility and bed sores.

In these respects the contrast is very striking, and it is fair to attribute it to the change in treatment. Of late years the so-called antiphlogistic measures have fallen into disuse; and, in place of these, tonic remedies and alcoholic stimulants have been much employed, together with cod-liver oil, a generous diet, and life out of doors.

It is not easy to determine how far the improvement in the success of treatment is due to the abandonment of measures formerly employed, and how far to those which have been substituted, but that the former were injurious can hardly be doubted. Of the measures now in vogue, there may be differences of opinion with reference to the relative importance of those which are, in the strict sense of the term, therapeutical, and those which come under the head of diet and regimen; but I think few are to be found who do not regard the latter as vastly more important than the former. It is by no means uncommon for cases to be treated exclusively by hygienic measures.

Now, it is proposed to return to some of the measures which had become almost obsolete in practice.

In the recent treatises by Hérard and Cornil, and by Niemeyer, blood-letting is advocated as a measure important in certain cases of the common form of pulmonary tuberculosis, namely, that known as infiltrated tubercle. In the first-named of these two treatises, even venesection is recommended, and in the second local bleeding by cups or leeches. Hérard and Cornil advocate the use of the tartrate of antimony. They advise confinement within doors during the winter season. Niemeyer goes further, and advises confinement to the bed whenever febrile phenomena are present. These measures of treatment are based on the pathological view which considers infiltrated tubercle as a form of pneumonia; they are employed, in other words, as antiphlogistic measures. Hérard and Cornil state that the therapeutical indications are nearly the same as in cases of frank pneumonia; and Niemeyer states as a reason for giving to the affection the name "chronic catarrhal pneumonia," that thereby "its prophylaxis and therapeusis are promoted."

This new view of the treatment of pulmonary tuberculosis seems to me to illustrate the tendency to engraft therapeutics on pathology. The disease, as it is generally presented in practice, is a pneumonia, and it therefore claims the treatment which is supposed to be appropriate to pneumonic inflammation.

But this is a *non sequitur*, according to the general truth stated in entering on this division of the subject. It does not follow that these measures are indicated, granting that the affection is a form of pneumonia. The only true basis of therapeutics here, as elsewhere, is in clinical experience. Has clinical observation been correct in leading to the conclusion that these measures of treatment are injudicious, at a time when tuberculization was generally thought to be a non-in-

flammatory process, then, assuredly, this conclusion is not upset by proving that the process is an inflammation. The lessons of experience are not to be subverted by changing the name tuberculous infiltration to catarrhal or tuberculous pneumonia.

It is not, then, an unreasonable skepticism, or conservatism, to protest against the adoption of this new view of treatment on mere pathological grounds. We are bound, as it seems to me, not to adopt it until it is substantiated by a collection of facts obtained by experimental observation. We are bound to adopt it whenever it is so substantiated. They who are fairly convinced of the propriety of these measures, as the result of speculation or reasoning, will not be likely to hesitate in employing them; but there are many who cannot at present conscientiously submit them to the test of experimentation.

The pathological opinion stated under the head of causation (and which I believe may be proved to be erroneous), that pulmonary consumption is a sequel of bronchitis, has an important bearing on the treatment. If this opinion be correct, it is a rational inference that it is a special object of treatment to prevent the recurrence of attacks of bronchitis, and that therapeutical measures are to be specially directed to bronchial inflammation. Of those who have had a large experience in the management of the disease in this country, not a few attach most importance to out-of-door life, and enjoin upon patients, not to be deterred from carrying out this hygienic measure by apprehensions of "taking cold." It is common to assure patients that the existence of pulmonary tuberculosis does not render them more liable to attacks of bronchitis, and, if attacks occur, the tuberculous affection is not thereby increased. These statements, which date from the researches of Laennec and Louis, are not in accordance with popular belief, a fact which Niemeyer thinks is very fortunate, considering, as he does, the latter to be the more correct view. This view, there is reason to believe, is based on the supposed causative connection between bronchitis and consumption, rather than on clinical experience.

On the conclusion of Dr. Flint's paper the President introduced to the Academy Dr. James P. White, of Buffalo.

Dr. Alonzo Clark, in opening the discussion, remarked that he did not intend to make a speech, and when the President some time since requested him to prepare a paper for the Academy, precisely the same title introduced by Dr. Flint was proposed. He was as much pleased with the tone of the paper as he was displeased with the views of Niemeyer, being confirmatory of the speaker's clinical observations, first made in 1842.

Reference was also made to the statement of the late Dr. Isaacs, that tubercular meningitis can happen when tubercle is not present.

In alluding to hemorrhage as a cause of phthisis, he was prepared to state, after an experience of a great many years, that a spontaneous hemorrhage happens when tuberculosis is present.

Dr. W. C. Roberts read quite a lengthy paper, showing that scrofulous matter and tubercular deposits were identical in cause, nature, and composition. No distinct lines can be drawn between them, and, clinically, it is not important. In cases of scrofula, tuberculous deposits are almost always present.

The President, in closing, announced that the two stated meetings in November would probably be taken up with the discussion of the papers of Drs. Draper and Flint.

On motion, the Academy adjourned.

Correspondence.

HYPODERMIC USE OF QUININE.

To the Editor of the Medical Record.

Sir—I come before your readers again, but with much reluctance, not because I regard the subject for which I contend as unimportant, or its success as at all doubtful; but because circumstances have of late made it apparently necessary that I should take the field so often, that I am fearing that I am becoming tiresome. May I hope to think that existing events may once more excuse me. In your issue of October 15th, 1870, my neighbor, Dr. E. C. Seguin, appears in a letter, showing that he has felt constrained to again plead for the hypodermic use of quinine, in opposition to my protest against the method as a dangerous and unnecessary abuse of administration. He commences by disavowing any claim on the part of the physicians of the New York Hospital to responsibility for the report quoted by me in my paper on quinine and published under his name. I do not think the profession needed this statement, in view of the fact that there has been no doubt raised by any one of the medical staff of the hospital as to the truthfulness of the doctor's report. Had there even been a question upon this point, it was very easy to settle it by referring to my authority, which I very distinctly said was "published in the *New York Medical Journal* for December, 1867." By referring to that publication the reader will find that this use of quinine was introduced into the hospital in 1866, September, by one of the attending physicians, and that from that time up to the date of the report mentioned, the method had been "a part of the regular practice of the house." I therefore accept the correction, that it was a truthful report of the practice of the hospital, by E. C. Seguin, M.D., &c., and not a report of the same by the medical staff.

This criticism disposed of, I will now answer some of the doctor's queries.

First. "Is there any evidence proving that a moderately acid solution thrown under the skin causes abscess, tetanus, or other grave disturbances?" As to abscesses and grave disturbances my reply is, yes, we have abundant and unquestionable evidence. I will first refer the reader to the doctor's own publication in the *New York Medical Journal* above referred to, p. 224. With regard to his remark, that the occurrence of abscesses in the cases there recorded was a "result attributable to the introduction of insoluble particles along with the fluid," I am obliged to say that he furnishes no proof that such was the fact. On the contrary, he states in the early part of his report that the solution used in the cases recorded, and indeed in the hospital generally, was made and filtered with the greatest care, and further along he informs us that sulphate of morphia may be added to *render the injection less painful* (op. cit.). Admitting this statement as to the care with which the solution used at the New York Hospital was prepared to be true, we are forced to conclude that the doctor's inference, that undissolved particles of quinine or other solid substances were the causes of the untoward results, is a mere theory to support a doctrine which no established facts support, much less demonstrate.

I will next refer the reader to the large amount of additional evidence of the danger attending the subcutaneous use of this acid solution of quinine, which I have collected in my paper on quinine. (See Transactions of the American Medical Association, vol. xx., 1869.) And finally, as very recent evidence against

the use of acid solutions beneath the skin, I call the attention of your readers to an essay by Dr. E. T. Wilson on the subject of the subcutaneous use of morphia. (St. George's Hospital Reports for 1869, p. 20)

This author, educated and trained among the strictest sects of hypodermic medicators, a colleague of the Charles Hunter referred to by the doctor (see his letter), and an enthusiast on the subject, says: "Whatever the salt used may be—whether acetate, meconate, or muriate—it is believed of the utmost importance that the solvent should be water, and water only. When thus used it has never in my hands produced the slightest suppuration or inconvenience; whereas the solutions prepared with acetic acid, and neutralized as recommended by the committee, Charles Hunter and others, have as invariably been attended with present smarting and prolonged tenderness of the punctured part."

Again, at p. 26 op. cit., this same author remarks, under the head of injury to the skin: "When puncture of the skin has given after trouble, this is generally due to the acidity and irritating character of the fluid injected."

If these be truths with respect to *morphia solutions* of an acid reaction, the profession needs not to be reminded that there is every rational probability that the far more acid solutions of quinia are very much more liable to excite serious irritation and inflammation. I will not occupy more of your space with references to the large accumulation of authority in support of the indisputable fact that the introduction of acid solutions, however perfect, into the subcutaneous areolar tissue, is very liable to produce abscess. And yet, in the face of this fact, supported as it is by his own records, the doctor dares to venture to add that, "judging from experience," he "unhesitatingly recommends this method of giving quinine in the following circumstances: 1st, in general hospitals, civil and military, where economy in the use of quinine is a desideratum; 2d, in private practice, in cases of congestive fever, where it cannot be administered by the mouth, or when rapid action is desired; 3d, in private and in hospital practice, for the treatment of neuralgia of malarial origin, in which affection remarkable results are obtained by local injections of quinine, the drug acting in its specific manner upon the system, and locally by *counter-irritation.*" There are few cloaks which cover a greater multitude of sins than the cloak of *experience.* There is no method of practice too absurd; no system of therapeutics too abominable; no chirurgical procedure too violent or even dangerous to prevent its obtaining the support of alleged satisfactory *experience.* Hence, when I hear one hedging his position in by adducing his own experience, which experience ignores the recognized laws of physiology as well as of pathology, I at once challenge his credibility. Of this class I regard all such as urge the hypodermic use of quinine, upon the support of their own *experience,* including especially Dr. Eulenberg. The results of this method of giving quinine are so uniformly attended by the untoward accidents already alluded to, that I should hesitate to accept as reliable any alleged experience of a different character. But in the present instance I am not called upon to reject any such experience, for the doctor, though apparently satisfied with his *experience,* furnishes more than enough disastrous results of the medication to counterbalance any claimed advantage, and quite enough, in my estimation, to condemn the whole system of hypodermic medication with quinine, without going further into the evidence. While he alleges that it is at least an economical method, he is forced to confess that "the very capable apothecary at the hospital is of the opinion that on the whole the treatment results in no saving of quinine." This is as near as may be to the conclusion I reached by examining the records as published by the doctor. (See my paper, op. cit.) Notwithstanding all this, he thinks it *may* be made economical. As to its especial utility in miasmatic neuralgia, claimed by the doctor, I must say that his remark upon its counter-irritant action is both instructive and unexpected. I would respectfully suggest to him that the specific action of the quinine may be obtained upon the system in these cases in a sufficiently prompt, and in a very much safer way than by injecting it under the skin at the seat of the pain; and also that if counter-irritation be indicated, it may be very promptly secured by means not liable to result in the production of abscess at the point of its application. Professional attention is particularly called to this confession of the doctor, as to the local irritant action of the process of injecting, or to the injection itself.

While upon this matter of experience, I will revert to the fact which the doctor is not the first to mention in the course of my journal discussion, viz.: my want of individual experience with the hypodermic use of quinine. This, I am happy to say, is a fact, and it is one of much consolation to me. While preparing a paper on the subject of quinine and its uses in miasmatic disease and exposure, about the close of 1861, I introduced a paragraph containing the suggestion that were one to venture so far he would no doubt find that quinine used hypodermically, after the manner in which morphine was then and still is much employed, acts very efficiently; but that as I had not failed to obtain the desired action of the medicine by other methods, I had not felt justified in making the experiment of using this necessarily acid solution under the skin. Before that paper went to press (it having been published in the Transactions of the Medical Society of the State of New York for 1862) I struck out that paragraph, under the impulse of the reflection that I had no good reason for suggesting a practice that I had regarded of too doubtful propriety to attempt myself. I have more reason every day to feel thankful for the reflection which thus influenced me. I was thereby rendered totally free from any responsibility for the vast amount of needless suffering, to say nothing of the deaths, which have resulted during the last few years from the hypodermic use of quinine. I am unable to see, and I doubt if the readers of the RECORD can see, that I would have been better "qualified to sit in judgment upon" this subject had I produced a few dozen abscesses, or a few hundreds of phlegmonoid swellings, and by chance killed an occasional fellow-creature by giving rise to a traumatic phlebitis, possibly by introducing air into a vein, or even exciting a fatal tetanus. With quite as much reason might we insist that judges and jurors, in order to be qualified to sit in judgment for the trial for alleged crime, should be practised criminals. The question at issue is one which appeals, if I may be allowed the use of the term, to common professional sense, and therefore needs simply the evidence of information to qualify one to sit in judgment upon it. I esteem myself fully competent, by virtue of the evidence, both for and against the method, which I have been at much pains to analyze, to sit in judgment upon it. Should there be any doubt about it in the minds of the profession, I will at once put the question directly to them if the evidence furnished by the advocates and the practitioners of the hypodermic method of medication with quinine is not sufficient of itself to show that it is attended with danger, and a danger too which does not attend any of the other forms of administration.

There can be but one opinion and answer to this question. The doctor apparently thinks that I was quite unjustified in attributing the fatal tetanus occurring in the practice of Dr. Sale, to the quinine used under the skin. He is not the first either to advance this idea. As I have never stated that I believed anything of the kind, no more time need be spent upon this point. In reply to his suggestion that a nerve-fibre might have been pricked, or that some solid particles entered the areolar tissue with the fluid, or that some climatic conditions favored the development of tetanus from very slight causes, I cannot but say that I doubt if the readers of the RECORD will be able to comprehend how the presence of one or all of these conditions is to remove the responsibility of bringing them into action from the totally unnecessary hypodermic syringe. I presume none will venture to assert that a ten, or even a twenty grain solution of the medicine thrown into the rectum, in any of these unfortunate cases, would have produced either phlegmonoid swellings, abscesses, or tetanus, however strong the climatic tendency might have been; and I dare to say that about as prompt, quite as efficient, and as permanent therapeutical effects would have been produced, notwithstanding the doctor thinks that "well-conducted experiments are needed upon this point." Should he deign to institute any such "well-conducted experiments," he may rest assured that they will result in no such disastrous consequences as have been caused by the efforts to convert the subcutaneous areolar tissue into what Divine Providence never intended it to be—a digestive and absorbing organ. In this matter, although the doctor may doubt it, I have had a large and satisfactory experience, and one which is not in violation of well-known physiological truths. I therefore confidently and urgently advocate it; and I am supported by the published results of the experiment of the Scientific Committee of the Royal Medical and Chirurgical Society, though the doctor thinks, or at least says, that these results are "most unsatisfactory," and that they fail "to meet the requirements of modern experimental physiology." They certainly do fail to meet the requirements of *modern experimental therapeutics*. While they fail to meet these modern requirements as to the introduction of the acid solution of quinine under the skin, instead of into the rectum or stomach, the doctor remarks that they say nothing about the danger or innocence of well-made acid solutions thus used. I presume that if ever a *well-made solution* existed, it was that made and used at the New York Hospital by the doctor; and I submit to the unbiassed judgment of the profession, that the recorded results of its use there, though perhaps more than usually favorable, render any qualifying remarks by the Scientific Committee on Acid Solutions under the Skin quite unnecessary. Those results must, in the estimation of every prudent and ingenuous physician, condemn its use.

STEPHEN ROGERS.

249 WEST 42D STREET, Oct. 19, 1870.

ARMY MEDICAL SERVICE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR—I have read with great interest your Editorial in the RECORD of Sept. 1st, 1870, on "Army Medical Service Abroad," and I consider this an appropriate time to address a few words to your valuable journal on "Army Service at Home." We have just emerged from a great struggle, and Prussia and France are now engaged in a war which may eventually involve the whole of Europe and perhaps America.

My remarks will apply as briefly as possible to the Medical Department of our Army. We were indebted, and our gratitude at the time was extreme, to the personal exertions of three or four Army Surgeons who fought for our rights; and with the valuable assistance of Surgeon-General Barnes, we succeeded in getting the entire management of General Hospitals under the control of the surgeons in charge; thereby, as you justly state, preventing "the placing at the Head of Establishments intended for the treatment of disease and wounds, officers of the Line, who, whatever their other accomplishments, could not be expected to understand the requirements of medical science, and who, with the best intentions in the world, might seriously embarrass the action of the surgeon, as was sadly the case in the Crimean war, &c." But the war ended, and all returned to its pristine barbarism. General hospitals were abolished and post hospitals established. These are under the control of the Post Commander, and so is the surgeon, to all intents and purposes. For instance: "He has no control and cannot fix his hour for sick-call. He has to go round and inspect whenever his commanding officer orders him, sometimes at most inconvenient hours."

He is expected to lend bedding and Hospital property to all and every officer who may send to borrow the same, "and, if he do not, is snubbed; and, at many posts he cannot *go out* for a walk *fifty yards* from the camp, *without permission*." It is true he can *respectfully recommend* this or that to be done; but how often are these recommendations carried out? (I knew a case at a remote post on the sea-coast, where the doctor recommended the men to have fresh meat once a week; but, although there was cattle on the island in abundance, the men had to live on what fish they could catch. The commanding officer was subsequently tried for stealing, &c., but not at the instance of the doctor, and dismissed the service. The doctor preferred a quiet time and a piscatorial diet to quarrelling with such a man.) Now, this case proves incontestably that the Hospital Department should be under the control of the surgeon, unfettered in every way! It is for the interest of the service. Of course there are many officers educated at West Point, and others who have got into the army, in consequence of our late war, who are gentlemanly enough not to interfere with the surgeon; but it cannot be denied many do interfere and make it unpleasant for the doctor, if the doctor asserts his rights as derived from the Army Regulations.

Prussia has within the last two months done wonders against the French Army, which has always been considered invincible on the continent of Europe, by her superior organization and method. Now, allow me to tell you the same good organization extends to her medical service. It is a *distinct branch*. The Surgeon-General is the head. He assigns offices, gives furloughs, &c., and is not under the control of any army officer, neither are his surgeons or assistants. A list of surgeons required is sent to him, and he assigns the number requested to the different posts, as surgeons in charge, and not as is done with us. "Major So-and-So, Surg. U. S. A., or Capt. Assist. Surgeon So-and-so, U. S. A., will report to Lieut. So-and-So, commanding officer, at such a place"—often his *inferior* officer, both by rank and education.

"A surgeon applies for a furlough and he grants it and assigns a substitute temporarily." If, however, a surgeon in charge of a petty post hospital wishes to take a walk or an hour's ride on horseback, I imagine he takes one or the other, and does not have to go to a

commanding officer, who may be and often is a junior, and say, "Please, sir, may I go out for an hour?" In the British army, although they are very severe, the regulations as far as regards the medical department are a dead letter (outside of its own laws and regulations), because the former are not enforced. There is no interference with medical officers. The "officer of the day," called there the "orderly officer," visits the hospital daily, as a matter of form. The surgeons and assistants are supposed to know best when they can be absent for a few hours, and there is never any trouble. During the Crimean war, hospitals were sometimes kept for some hours without fire-wood, in consequence of the scarcity of teams and bad management in the quartermaster's department, but never neglected intentionally by the executive branch. The recent order requiring sick men to be examined by the captain or lieutenant of the company and a certificate signed by one of these officers before the man is brought to the surgeon, to the effect that he has examined said man, "and for *what purpose* and with *what object nobody seems to understand*," places the medical officers in a very unenviable light.

The late case of Dr. Green, of the Navy, who was actually ordered to take a man off the sick-list, and was tried and convicted for refusing to obey an illegal order, is fresh in the memory of all. The army has not come to that yet. The sooner we adopt the Prussian common-sense plan the better. The British government emigration laws require the surgeon superintendent of the ship to sign a certificate that the captain of the ship has treated his passengers well during the voyage, before said captain can receive his pay. When the Dr. was under the orders of the captain, abuses were frequent, and this led the Government to adopt this wise law. It may be said, "If the Doctor be independent, how can he be punished for neglect of duty?" Ans.: "By court-martial."

I must apologize for thus trespassing on your valuable space, but I wished to enlighten you on the minutiæ and take you behind the scenes of the medical service. When you say that American surgery leads the van in military as well as in civil service, we take it as a high compliment, and when you state "that all matters pertaining to the medical care of an army must be entrusted to men educated for the purpose, &c., &c.," you speak truly, and if you could only prevail on the powers that regulate Uncle Sam's affairs in the Dis rict of C. to think as you do, you would confer an everlasting boon on the Doctors of both services.

AN ASSISTANT SURGEON.

ARMY AND NAVY NEWS.

List of Changes of Stations and Duties of Medical Officers of the Army to November 4th, 1870.

SIMONS, JAS., Surgeon.—By S. O. 283, War Department, A. G. O., October 24th, 1870: assigned to duty at Baltimore, Md., as Attending Surgeon and to examine recruits.

HAMMOND, J. F., Surgeon.—By S. O. 126, Headquarters Department of Texas, October 5th, 1870: relieved at Austin, Texas, and assigned to duty as Post and Attending Surgeon at San Antonio, Texas.

ALDEN, C. H., Surgeon.—By S. O. 28, War Department, A. G. O., October 19th, 1870: to report in person to the Commanding General, Department of the Lakes, for assignment to duty.

BACHE, DALLAS, Surgeon.—By S. O. 126, Headquarters Department of Texas, October 5th, 1870: assigned to duty at Fort McKavett, Texas, upon being relieved by Surgeon J. F. Hammond, at San Antonio, Texas.

DAVIS, P. C., Surgeon.—By S. O. 187, Headquarters Department of Dakota, October 19th, 1870: assigned to duty at Fort Benton, Mont. Terry., upon being relieved by Assistant-Surgeon A. B. Campbell, at Fort Ellis, M. T.

BROOKE, JNO., Assistant-Surgeon.—By S. O. 201, Headquarters Department of the East, October 11th, 1870: assigned to duty at Raleigh, N. C., as Post Surgeon, after proper disposition of medical and hospital property at Fort Delaware, Del.

BROOKE, JOHN, Assistant-Surgeon.—By S. O. 208, Headquarters Department of the East, October 22d, 1870: granted permission to delay five days, in compliance with paragraph 6, S. O. 201 C. S. from these Headquarters, after completing disposition of medical and hospital property at Fort Delaware, Del.

SMART, CHARLES, Assistant-Surgeon.—By S. O. 208, Headquarters Department of the East, October 22d, 1870: to report to the Commanding Officer and to the Post Surgeon at Fort Monroe, Va., for duty.

GIRARD, A. C., Assistant-Surgeon.—By S. O. 126, Headquarters Department of Texas, October 5th, 1870: relieved at Fort McKavett, Texas, and assigned to duty as Post Surgeon at Fort Duncan, Texas.

GUNN, G. H., Assistant-Surgeon.—By S. O. 133, Headquarters Department of Texas, October 15th, 1870: assigned to duty at Fort Quitman, Texas, upon completion of duty assigned him in paragraph 6, S. O. 114 C. S. from these Headquarters.

CAMPBELL, A. B., Assistant-Surgeon.—By paragraph 1, S. O. 187, Headquarters Department of Dakota, October 19th, 1870: assigned to duty at Fort Ellis, Mon. Terry., upon being relieved at Fort Benton, Mon. Terry., by A. A. Surgeon Marselis.

KING, W. H., Assistant-Surgeon.—By S. O. 59, Headquarters Cavalry Department, Camp near River Bend, Col. Terry., October 10th, 1870: relieved from duty with this command, and to proceed to Fort Wallace, Kansas, in compliance with telegraphic instructions received from Headquarters Troops in the Field.

KING, W. H., Assistant-Surgeon.—By S. O. 201, par. 1, Headquarters Department of the Missouri, October 26th, 1870: assigned to duty as Post Surgeon at Fort Wallace, Kansas.

COWDNY, S. G., Assistant-Surgeon.—By S. O. 200, par. 2, Headquarters Department of the Missouri, October 25th, 1870: to accompany the detachment of the Seventh Cavalry, ordered from Fort Hays to Fort Leavenworth.

COWDNY, S. G., Assistant-Surgeon.—By S. O. 79, Headquarters Detachment Seventh Cavalry, Camp Sturges, Kansas, October 24th, 1870: to proceed without delay to Fort Leavenworth, and report for duty to the Commanding Officer of that post.

COWDNY, S. G., Assistant-Surgeon.—By S. O. 202, Headquarters Department of the Missouri, October 27th, 1870: leave of absence for 30 days is granted.

ALDEN, C. H., Surgeon.—By S. O. 118, Headquarters Department of the Lakes, October 27th, 1870: will proceed to Fort Mackinac, Michigan, and report to the Commanding Officer of that post for duty.

LIPPENCOTT, HENRY, Assistant-Surgeon.—By S. O. 196, Headquarters Department of the Missouri, Fort Leavenworth, Kansas, October 17th, 1870: will accompany a detachment of the Seventh Cavalry, ordered from Fort Hays to Fort Leavenworth by paragraph 1, S. O. 192, C. S., from these Headquarters.

DELANY, ALFRED, Assistant-Surgeon.—By S. O. 190, Headquarters Department of the Missouri, October 10th, 1870: is granted leave of absence for 30 days on surgeon's certificate.

WIRTZ, H. R., Surgeon.—By S. O. 25, Headquarters of Arizona, October 13th, 1870: will proceed to Drum Barracks, California, and await further orders from these headquarters.

ALDEN, C. H., Surgeon.—By S. O. 120, Headquarters Department of the Lakes, October 31st, 1870: will repair to Fort Gratiot, Michigan, and relieve Assistant-Surgeon S. S. Jessop, U. S. A., from duty at that post. Assistant-Surgeon S. S. Jessop, upon being relieved, will repair to Fort Mackinac and relieve Acting Assistant-Surgeon H. R. Mills, U. S. A.

NAVAL REFORM.—At a meeting of the Alameda County Medical Association, held at its rooms in Oakland, California, October 17th, 1870, the following was unanimously adopted:

Whereas, Of late repeated and persistent insults have been offered our professional brethren in the U. S. Navy, by the authority of the Navy Department, degrading them in rank and position; lessening by example the respect due their profession, and contracting their sphere of usefulness; and

Whereas, In every civilized community throughout the world, save in our Navy, the profession of medicine is considered at least equal in dignity and respectability to any other profession; and

Whereas, In our service the members of the Medical Staff are selected by competitive examination from among the graduates of our medical schools, while the line officers are selected to be educated at the country's expense from among the uneducated boys of the community, by favoritism, by relationship, or, as has lately been proven, by purchase; and

Whereas, Rank and command are distinct ideas, having no necessary connection; there being a recognized necessity for *one* commander in all military operations, to whom the other officers are subordinate for the time being; and

Whereas, If physical courage and personal exposure are the only tests of merit, no corps can show, during the late war for example, a larger proportion of killed by the enemy, by fire, by water, or by the more deadly and insidious foe—disease, than the medical officers of the Navy; therefore be it

Resolved, That we consider the stigma to which they have been subjected as applying to the profession at large, and while it is unremoved we consider that no young medical man having a proper regard to his self-respect can accept an appointment in the medical corps of the Navy and subject himself and his profession to the indignities which the self-constituted and newly-born "Aristocracy of the Line" impose.

Resolved, That we view with pain and sympathy the position of the Senior officers of the Medical Corps, whose long service now renders it impossible for them to resign and commence life anew; and we call upon our Senators and Representatives in Congress to recognize their position as co-equal with the highest in the service, by giving them military rank, such as is justly enjoyed by the Medical Staff of the Army, and by that in the services of each of the civilized nations of the world, together with such increased emoluments and promotions as will recognize their invaluable services to our country, and recompense them for the insults and oppression to which they have most unjustly been subjected.

Resolved, That a copy of these resolutions be sent to each Senator and Representative from this State, and that our delegates to the State Medical Society be instructed to bring this subject before that body for its action.

(Signed) T. H. PINKERTON, M.D., President.
S. C. HOLMES, M.D., Secretary.

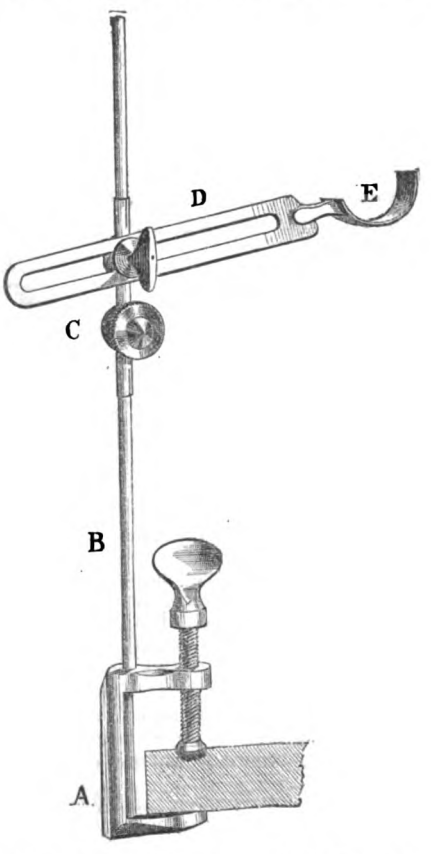
New Instruments.

A HOLDER FOR SIMS'S SPECULUM.

BY JAMES B. HUNTER, M.D.,
NEW YORK.

THE want of a good self-retaining speculum, for use in every-day uterine practice, has led to the contrivance of a great variety of ingenious instruments, several of which answer the purpose tolerably well in a majority of cases. But it frequently happens that nothing will answer quite so well as Sims's speculum; and hence we find many practitioners using their favorite self-retaining speculum where they can, and at the same time keeping Sims's instrument within easy reach for probable contingencies.

After considerable experience with every kind of self-retaining instruments I was able to obtain, I found myself so often thrown back on the good old speculum of Sims, and so often annoyed by the want of a nurse or assistant able to hold it properly, that I was led to devise a simple holder to take the place of the assistant's hand. The result of several experiments was the instrument of which a cut is annexed, and which I have now used constantly for several months with entire



satisfaction. Indeed, I very much prefer it to an awkward or untrained assistant.

The plan of this speculum-holder is so simple that it will be comprehended at a glance. The brass clamp A is attached to the edge of the table on the left-hand side of the operator. In this clamp is fastened a steel rod, B, ten inches long. A brass slide, C, moves freely up

and down the rod, and revolves upon it, being made fast at any point by a screw. In the upper part of this slide is a second screw, passing through a slot in the arm D. The arm is also of brass, and terminates in a curve, E, against which rests the blade of the speculum not in use. It is well to have this curve covered with wash-leather or rubber. The arm moves freely, and may readily be adjusted at the necessary distance from the upright rod, and at any angle to it. I find it generally holds the speculum most steadily when adjusted nearly at the angle shown in the cut; but the position must of course vary considerably in different cases. I expected some inconvenience from the movement of the patient, but practically have found none. I have the patient placed in the usual position on the left side, and then clamp the instrument to the table at the proper place. I next introduce the speculum, and having slipped the holder beneath the free blade, make the requisite tension and fix it firmly in position. Both hands are then free for the use of other instruments.

It will probably be objected to this holder that it does not forcibly retract the perineum, and with the view of effecting this object my first instrument was made to clasp the shaft of the speculum. I afterwards found that if the blades of the speculum formed sufficiently acute angles with the shaft, the perineum was well retracted by the instrument above described and the speculum did not slip out. If the speculum is of the faulty pattern often sold, with the blades at right angles to the shaft, it is impossible to use it satisfactorily in all cases, either with the holder or an assistant. Of the two extremes it is much better to have the angles too acute than the reverse.

134 West 34th St.

Medical Items and News.

Card from the Long Island College Hospital.—It has recently come to our knowledge that a *quack advertisement* has been distributed under cover and stamp of the annual circular of the Long Island College Hospital.

The Regents and Faculty of the College embrace the earliest opportunity to state that this was done without their knowledge, after the circulars had been committed to the news agent for distribution.

They deeply regret the necessity for publishing this card, but duty to themselves and the profession requires that this statement be made public.

Transactions of the Medical Society of Pennsylvania.—The Transactions incorporate the minutes of the annual meeting held in Philadelphia, June, 1870; Address of the President, Dr. W. M. Wallace; Reports of the Committees on Charter and Publication, Vaccination, and Inspection of Drugs; Antidotal Effect of Chloroform on Strychnine, by Dr. W. H. Gobrecht; Dr. R. L. Sibbert's description of a compound craniotomy instrument,—all occupying seventy-six pages of the book.

The remaining one hundred and forty pages are taken up with the reports from county medical societies, some of them containing interesting and practical facts concerning epidemics and endemics of the year, fevers, and other diseases, with notices of deceased members.

The Texas State Medical Association.—The second annual meeting of this Association was held in the city of Houston, on the 15th of June last, and extended over the three following days. This Society numbers fifty members. The following officers were elected for the ensuing year:—*President*, Dr. R. H. Jones, of Brenham; *First Vice-President*, Dr. R. W. Lunday, of Houston; *Second Vice-President*, Dr. W. J. Cocke, of Belleville; *Recording Secretary*, Dr. A. Connell, Jr., of Houston; *Corresponding Secretary*, Dr. D. F. Stuart, of Houston; *Treasurer*, Dr. W. P. Riddell, of Houston.

College of Physicians and Surgeons, New York.—Prof. Thomas M. Markoe now has the chair of surgery in this institution, Prof. Willard Parker having retired. The latter gentleman, however, will hold a clinique every Monday. Prof. John T. Metcalfe has retired from the chair of clinical medicine, but will hold a clinique every Monday at Bellevue Hospital.

Deaths in Philadelphia.—The number of deaths in Philadelphia, in 1869, was 14,786, in a population of about 800,000; one death in 54, or 1.84 per cent. The number of male deaths was 7,644; of females, 7,142; 1,279 died between 1 and 2 years; 1,292 between 2 and 5 years; 1,408 between 20 and 30 years; 1,251 between 30 and 40 years; and 1,020 between 40 and 50 years. There were 1,975 deaths from phthisis pulmonalis; from scarlatina, 799; from typhoid fever, 383; from meningitis, 367; from convulsions, 647; from diphtheria, 175; from croup, 237; from pneumonia, 808; and from cholera infantum, 885.

Seven hundred and ninety were still-born.

Paracentesis Membranæ Tympani.—J. F. Noyes, M.D., Prof. of Ophthalmology and Aural Surgery in the Detroit Medical College (*Detroit Review of Medicine*), reminds us that the operation of puncturing the drum of the human ear comes down from a remote date in history. It was first performed on a human subject, in Paris, by a travelling quack or miracle-worker, named Eli, a little more than a century ago. Willis, Valsalva, and others had previously made the experiment on dogs. Himley introduced it into Germany, and first performed the operation of paracentesis tympani on a deaf person in 1806. It was performed also about that time, in England, by Sir Astley Cooper. In Germany it met with less favor than in France, and was seldom undertaken until quite recently, when, in 1863, Gruber, of Vienna, advised the operation called "Myringodectomy," or the excision of a portion of the membrana tympani, as a cure for impaired hearing and tinnitus aurium.

Prussian Sanitary Arrangements.—According to the New York *Nation*, Professors Esmarch and Virchow have at last succeeded in introducing into the German field hospitals the American system of barracks.

In the war of 1866, Prof. Esmarch endeavored to introduce this barrack system there, but was unsuccessful.

New Publications.

Books Received.

Pathology and Treatment of Venereal Diseases, including the results of recent investigations upon the subject. By Freeman J. Bumstead, M.D., Professor of Venereal Diseases at the College of Physicians and Surgeons, New York; Surgeon to Charity Hospital, etc. Third edition, revised and enlarged, with illustrations. Philadelphia: Henry C. Lea, 1870.

Photographic Review of Medicine and Surgery. A bi-monthly illustration of interesting cases, accompanied by notes. Edited by F. F. Maury, M.D., and L. A. Duhring, M.D. No. 1. vol. I, October, 1870. Published by J. B. Lippincott & Co.: Philadelphia.

Original Lectures.

THE MASTOID PROCESS IN INFLAMMATORY AFFECTIONS OF THE MIDDLE EAR.

By D. B. ST. JOHN ROOSA, M.D.,

CLINICAL PROFESSOR OF DISEASES OF THE EYE AND EAR IN THE UNIVERSITY OF NEW YORK, SURGEON TO THE MANHATTAN EYE AND EAR HOSPITAL, ETC.

(Read before the American Otological Society, and the Medical Library and Journal Association of New York.)

It is a well recognized fact that the extension of an inflammation of the mucous membrane lining the cavity of the tympanum to that of the mastoid cells, and to the periosteum covering the mastoid process, is a serious matter. Perhaps it is a complication or an aggravation of *otitis media* only second in gravity to an extension of an inflammation of the middle ear to that portion of the dura mater covering and running into the roof of the cavity of the tympanum. In an affection of the mastoid, very fortunately, however, the prognosis depends more entirely on an early recognition of the character of the disease than is the case when an otitis extends to the brain, for, in an early, free, and deep incision through the integuments and periosteum, we have the means of a thorough local depletion, and, almost always, of arresting the dangerous inflammatory process. The early diagnosis of an invasion of the mastoid becomes, then, a matter of much moment. A delay in the recognition of the true state of things allows the extension of the disease to the brain, through some of the numerous foramina which transmit the minute branches of the middle meningeal artery. Pus may also be carried into the circulation through the mastoid vein which passes to the lateral sinus.

At an early period in my medical studies my attention was called to the importance of mastoid inflammation by some cases under the care of my preceptor, Professor Alfred C. Post, and by his recital of several others which had come to a fatal termination as a result of a non-recognition of the dangerous nature of the affection. During the last winter I have again had my attention particularly called to this subject by an unusually large proportion of cases of mastoid trouble, which I have seen in my own practice and that of others, and I have had frequent opportunities of learning that mastoid periostitis is not always fully appreciated.

Some little looking into what has been written on the subject, has convinced me that the mind of the profession would bear a reiteration of some of the more important features of this grave affection as given by the authors and as seen in practice. I will venture, then, to present the notes of a few ordinary cases, with one that is perhaps of more than usual interest, with some points in their diagnosis and treatment, as well as an historical sketch of the operation known as trephining or perforation of the mastoid process.

Case I.—This was under my care at the Manhattan Eye and Ear Hospital, and has already been reported by Dr. C. I. Pardee,* but chiefly with reference to its being a case of *otitis media*, caused by the use of the nasal douche. I saw this patient, who was a man of about thirty-five years of age, soon after the inflammation of the ears had occurred, which was about nine months before he presented himself at the hospital in October, 1869. He was then suffering from a suppurative inflammation of the middle ear, but the amount of pus discharged through the perforation in the membrana tympani was slight. This latter-named state of things, so far as my experience shows, is always to be looked upon with suspicion, if considerable pain or uneasiness in the ear be at the same time experienced. There was considerable swelling of the mucous membrane of the cavity of the tympanum, and the hearing was greatly impaired. He could not hear a watch at all. He was under my care for this suppuration of the ears for eight weeks, when he disappeared, and I next saw him, as just stated, some nine months after at the hospital, when I found his condition had become worse, and that it was alarming. He complained greatly of pain in the head, which prevented him from pursuing his avocation, which was that of a plumber. The auditory canal of the left side was filled with granulations, the mastoid process was red, tender, and painful. Just in front of the meatus there was an abscess, and a small fistulous opening just above the same part. The hearing on that side, as tested by the watch and voice, was completely gone. On the other side the ear was in substantially the same condition as when I first saw him.

I immediately made incisions down to the bone, rather against the patient's will, just behind, above, and in front of the attachment of the auricle. I found no dead or exposed bone, but quite a large amount of pus was evacuated. The patient immediately began to improve. In a few days Dr. Pardee removed a piece of the mastoid structure through the auditory canal, the pain in the head disappeared, the suppuration from the mastoid ceased, the granulations were removed from the canal, and the patient resumed his occupation.

A consideration of some other cases about to be presented will, I think, justify the opinion that in the one just recited there was a narrow escape from brain disease.

The two following cases are from the notes of Dr. David Webster, House Surgeon in the Brooklyn Eye and Ear Hospital, where they were under my care, and are also striking evidences of the prompt relief afforded by timely interference:—

Eliza N., æt. 18, had a discharge of pus from the right ear for two months. The discharge suddenly ceased, and the patient was attacked with severe pain and swelling over the mastoid, which grew worse and worse for several days and caused her to visit the hospital. Dr. Roosa diagnosticated mastoid periostitis, and at once (May 10, 1869) made a free incision down to the bone. No pus was found, but there was free hemorrhage, which was encouraged by the use of warm water. The membrana tympani was found to be removed by suppuration, but there was a slight discharge from the canal. A tent was placed in the wound and a poultice applied over it. May 11, patient has had no pain and has slept well. The tent was reapplied and the poultice continued. May 16, the swelling of the mastoid is gone. There has been at no time a discharge of pus from the incision, but there was a copious one from the meatus. The patient was very pale when first seen, but the administration of iron and the cessation of pain have restored the normal condition. She has not since returned to the hospital.

Margaret O., æt. 48, came to the hospital June 21, 1869. Three months previously she had variola, and in the third week of that disease a purulent discharge began from the left ear. This discharge ceased, when, a week and a half ago, great pain, preventing sleep, set

* MEDICAL RECORD, vol. 4, p. 560.

in. There was found to be considerable swelling and puffiness above the ear, with tenderness behind it, but no swelling. There was great œdema of the eyelids, and the patient seemed to be in great agony. The auditory canal was swelled, but scarcely any pus was found in it. Dr. Roosa made incisions down to the bone above and behind the ear; from the latter pus escaped and a probe passed in a direction slightly upwards, forwards, and downwards into the mastoid cells. The surface of bone about this opening was roughened. The same treatment as in the former case was prescribed. Hydrate chloral gr. xv. was given at bedtime. Dr. Webster saw the patient the next day, when the pain had entirely ceased. June 28, no pain or tenderness. Politzer's method of inflation was practised, and the warm douche used.

July 12. A minute opening about a quarter of an inch from the attachment of the auricle still exists. The probe passes upwards and forwards into a superficial opening in the bone. No swelling, pain, or tenderness about the ear. The membana tympani has healed. Hears the watch 6″.

Case IV.—William G., æt. 39, came to the Manhattan Eye and Ear Hospital, June 13, 1870. In December, 1869, he first experienced a sharp pain in the left ear, which was most severe at night. This pain continued for two months, at the end of which time a discharge occurred from the ear, which has continued more or less until now. Two months later the mastoid process became swelled and tender, and it was opened and poulticed by a physician. A great quantity of pus, as the patient says, was discharged, and the pain, which was severe, was relieved. About four weeks after this the pain in the ear again occurred, and the patient presented himself at the hospital. He presented the appearance of a great sufferer; he was pale and haggard, his hands were tremulous, and his countenance was anxious. He complained of great pain, referred to the depth of the ear and to the head. The mastoid process was red and hot, but not swelled or tender, The auditory canal was exceedingly sensitive. The membrana tympani had been removed by suppuration, and there was a thin coating of pus on the floor of the cavity of the tympanum. Air was forced into the middle ear by Politzer's method, and leeches were applied to the tragus and mastoid. On the next day warm water was frequently instilled.

June 14. The pain in the ear has decreased, but there is more redness of the mastoid. Leeches, to be followed by a poultice, were ordered. I did not see the patient after his second visit, in consequence of my absence from town, until the 20th, when I found fluctuation in front of the meatus as well as great tenderness over the mastoid, with an increase of the constitu ional symptoms. The patient was then admitted as an in-patient, and having given him a dose of whiskey on account of his very shattered condition, I proceeded to make free incisions down to the bone in front of and behind the ear. The bone was not denuded or roughened. A tent was inserted and a poultice, the latter to be renewed every three hours. The patient slept well that night for the first time in some weeks, taking a dose of fifteen grains of hydrate of chloral.

June 28. The patient has been free from pain since. The incisions have nearly healed. There is a slight discharge of pus from the auditory canal. He hears a watch when it is laid upon the ear. His general condition is now very good, and he is discharged at his own request.

It is somewhat remarkable that this patient experienced so many painful symptoms of mastoid disease for so long a time, and yet escaped without disease of the bone. His affection was never more than an affection of the lining membrane, with some periostitis, while in a case about to be detailed, of much less severity, death of the bone occurred, and meningitis, with a fatal result, supervened. I now think that a free incision should have been made over the mastoid when I first saw the patient; although there was then only some redness of the process and no tenderness, the pain being referred to the depth of the ear. In the light of my present experience, in all cases where there is deep-seated pain referred to the *cavity of the tympanum*, which is not at once, that is to say, in a few hours, relieved by leeching and the warm douche, even if the mastoid cells do not seem to be involved, I should consider myself as giving the patient the benefit of a doubt by such a depletion as a free incision will afford.

Experience shows that there is no danger in this procedure, while a neglect to make the incision may be, and I believe often has been, fatal.

We can never sufficiently thank that eminent man Sir William Wilde for having pointed out the virtue of this early incision in periostitis of the mastoid, for it has saved many a life.

These cases are but a type of those which any person who sees much of aural disease must come in contact with; but inasmuch as I know of no positive marks which distinguish them from those which become fatal, I have made them the introduction to a case which had a sad termination, and which, although still obscure, in some respects is sufficiently cleared up to be very instructive.

Before passing on to this I will remark that I saw a case in consultation with Dr. C. R. Agnew, of which I will venture to give the barest outline, inasmuch as it is to be reported in full by Dr. Agnew in the Transactions of the American Otological Society for 1870. The patient, a lady, had a severe pain in the ear for days, from a cold. An eminent surgeon bored into the mastoid with a gimlet and made a bony fistula, which relieved the pain. For years after she had attacks of pain in the ear, attended by suppuration along this fistula. At last, on the supervention of some serious head symptoms, she allowed Dr. Agnew to enlarge the fistula into a free opening by a trephine, which he did in June last, some five or six years after the original inflammation. The patient did well.

The last case which I shall present is one which I saw three times at the request of my friend, Dr. Robert Hubbard, of Bridgeport, under whose care the patient was. The following history has been furnished me by Dr. Hubbard:—

'I was consulted in Dec., 1869, by W. E. S. æt. 38, by profession a mechanic, with good physical development and unexceptionable habits, on account of a severe influenza, from which he was suffering, and which was at that time epidemic in this city (Bridgeport). His mother and one sister I have reason to believe died of tubercular inflammation.

"Hitherto he had suffered no severe illness since the ordinary diseases of childhood, from all of which he made perfect recoveries.

"The attack of influenza was characterized by severe irritation of the whole respiratory system, with marked impairment of the special senses of taste and smell. The auditory apparatus was not at first, however, specially implicated. I prescribed for his 'cold' several times during the acute stage, as an office patient. But he at those visits made no mention of any trouble about his ears. Later he reported that he had lost his cough, but complained of catarrh of the

fauces and nasal passages, for which I prescribed the nasal douche, and gargles made stimulant and astringent by alum, chlorate of potash, chloride of sodium, tannin, etc. To the use of these he ascribed considerable improvement. I then lost sight of him until about the 1st of April, 1870, when he consulted me on account of an annoying tinnitus affecting only the right ear. At the same time he reported that he had occasionally for several weeks immediately preceding suffered moderate hemicrania of the affected side. Inspection showed marked enlargement of the mastoid pocess, which he declared had been at no time the seat of pain, and yielded no suffering under firm pressure. Specular examination showed a moderate degree of congestion of the membrana tympani, and by Politzer's method the Eustachian passage was found to be pervious. The middle ear was occasionally inflated, however, and warm water injections to the meatus externus ordered daily at bed-time, and a blister directed to be applied over the mastoid process. At the same time I continued constitutional treatment by quinine, iron, and strychnia, as he had been the subject some time previously of malarial infection. Under this course the apparent congestion of the membrana tympani disappeared, but the tinnitus was in no degree diminished. At this stage of the case, having met as well as I was able all rational indications, leaving to me only an empirical course, I advised him to consult Professor Roosa, and he advised me to renew the blister to the mastoid region, also to apply a leech to the tragus and repeat it after a stated interval, after which he requested to see him again."

My notes, on seeing the patient, are:—Hearing distance, right side, 2", tested with a watch that should be heard 3"; membrana tympani opaque; no light spot; handle of malleus injected. A very feeble current of air passes into the Eustachian tube. Patient complains of a very annoying buzzing sound in his ear. There is a very slight want of symmetry in the mastoid, no pain referred to it, no tenderness in any part of it; no pain in the ear. Two leeches ordered to the tragus and a blister to the mastoid. One week later I again saw the patient; the symptoms were the same. He had had some pain in the ear one night since his visit. I injected steam into the middle ear, and suggested that leeches be again applied.

(I again copy Dr. Hubbard's notes.)

"These measures were faithfully carried out, but with no good results. The time having come for another visit to Dr. Roosa, the patient called at my office, when examination revealed fluctuation at the summit of the mastoid process, indicating, however, a small quantity of fluid, and attended, as it seemed to me, with too little pain to be explained by the theory of a periostitis. I thereupon advised him to postpone his visit to New York and poultice the tumor for twenty-four hours, and then report again. At his next visit I found the swelling and fluctuation slightly increased, and I freely incised the integuments to the bone, liberating about half a drachm of thick healthy looking pus without disagreeable odor. I then probed the wound, expecting to find denuded bone, but I failed to detect a greater degree of roughness than is peculiar to that portion of the cranium. I advised him to keep the wound open and favor the discharge by poulticing. The discharge for the succeeding few days was little, but resulted in a marked diminution of the tinnitus and a corresponding sense of relief to the patient. He now failed to report to me for about a week, and meanwhile, from lack of attention, the incision healed, and when he presented himself again there was a re-accumulation of pus in much greater quantity than previously. This I evacuated and found it of the same character as before. Thereafter the wound was kept open and the tinnitus ceased, and the patient declared to me and others that he was 'a new man.' From this time my regular attendance ceased until May 12, 1870, when I was recalled and obtained the following history: He had continued in his improved condition until the evening previous, which he was passing in social enjoyment with his family and a brother who was paying him a visit, and, when laughing violently at some burst of humor, he stopped suddenly and exclaimed: 'There, I guess I have laughed too hard, for I have made my head ache.' No further reference was made to his suffering until he had retired to his room at bedtime, when he informed his wife that he was suffering from an intense frontal headache; he also complained of rigors, and passed an uneasy, sleepless night. Notwithstanding a resort to several domestic remedies, May 13, I found the patient still suffering from pain through the forehead and temples; pulse 70, regular, and with steady rhythm; tongue brawny, a thin white fur upon it; intellect clear; skin unusually open, and feeling like the third stage of a paroxysm of intermittent fever, which I confess I was disposed to consider it, inasmuch as he had previously suffered from that disease. I did not consider the symptoms sufficiently clear to indicate anti-periodic treatment, and I therefore temporized by giving the following palliative (a mixture of morph., aconite, and camphor water). May 14th, found him no better. Skin still open; pulse 68, with slight unsteadiness of rhythm, coating still more inflammatory; headache the same; urine rather copious; intellect in the morning clear, but once had requested an imaginary window-frame to be removed from his bed; pupil unaffected, no intolerance of light or sound; temper cheerful. I abandoned the malarial theory, and expressed myself to the friends as apprehensive of basilar meningitis, consecutive to subacute inflammation of the mastoid cells. Ordered an active cathartic, and ʒ ss. bromide of potassium, combined with the iodide. May 14th, P.M. Visited him in consultation with my partner, Dr. D. H. Nash. No relief; on the contrary, an increase of the cerebral disturbances, occasionally delusions and illusions of mind, and mostly of the ludicrous sort; pulse slow and somewhat staggering; *no pain in the ear or its surroundings;* bowels had moved freely two or three times; urine still copious; has had no sleep. Continue the bromide of potassium mixture, apply large blister to the nape of the neck, and give gr. xx. hydrate of chloral, and repeat in 4 hours if necessary. 15th, Had slept about two hours; general condition no better; decidedly humorous in his behavior; double vision, without apparent strabismus, could not read; pulse 60, more irregular; had less pain in the head, or at least he said less about it. Continued same line of treatment, with addition of gr. ij. calomel once in 4 hours. Blister acted thoroughly. 15th P.M. Condition little changed. Prognosis to family—fatal result, qualified by suggestion of possible relief from trephining mastoid process. May 16th, A.M. Patient worse; suggested the counsel of Dr. Roosa; treatment the same. Met him at 9 P.M., with Dr. Nash. Agreed to diagnosis of meningitis, with probable origin from mastoid cells. Determined on free explorative incision upon the mastoid process, and use of trephine if developments indicated it. Accordingly Dr. Roosa made an incision one inch and a half long, parallel with the attachment of the auricle (about one-half inch posterior), down to the bone, permitting thorough examination with the finger as well as with the probe. This means, however, failed on the part of either

of us to discover either necrosis or a denuded state of the bone. After a long search, and when the search and further procedure were about to be abandoned, the probe (in the hands of Dr. Hubbard, R.)—Bowman's No. 1—caught in a little depression, and by considerable pressure passed the external table of the cranium, into the interior of the mastoid portion of the temporal bone, to the depth of one and a half inch, without other resistance than that afforded by the external table. The orifice was now enlarged sufficiently to favor the escape of any pus that might be in the depths of the bone, an opening three-eighths of an inch in diameter, but no great quantity of pus escaped (just a trace, R.). Subsequent examination with the probe revealed a cavity of considerable size, caused by the breaking down of the mastoid cells. (The incision was carefully syringed with tepid water, and the opening plugged with lint, R.) 17th. I first observed dilatation of the pupils, with gradually increasing drowsiness, attended by delirium. This condition continued, with occasional aggravations, until the 19th, when the patient passed slowly into a state of profound coma, and he died without convulsions at 2 o'clock A.M., May 20. No post-mortem examination could be obtained."

I have only to add a few words to the history thus so graphically given by Dr. Hubbard. On the evening of the operation, or the third and last time I saw the patient, I examined the case as carefully as possible, and I found the membrana tympani intact and translucent, no congestion whatever. There was no bulging in any part of its surface. The patient, who recognized me perfectly, and showed that his memory was unimpaired, heard my watch about six inches from the ear—a decided improvement upon the hearing power on the two occasions when I had previously seen him. *There was absolutely no tenderness in any part of the mastoid.* Besides a very minute opening near the superior boundary of the process, which was scabbed over, there seemed to me to be no abnormal appearance in this part, and I examined it very carefully. On probing this minute opening, which was the trace of Dr. Hubbard's incision of some weeks before, there was no escape of pus.

So doubtful did the case seem to me, even with the history of the abscesses which had been opened, that I hardly expected that the free incision which I made would reveal anything abnormal.

There seem to me to be several points in this case which distinguish it from any that I have seen, or that I have been able to find reported, and which should lead us to revise some of our indications for interference with the mastoid in doubtful ear cases.

I. There never was a suppuration of the membrana tympani. A primary inflammation of the mastoid cells or their lining membrane, or of the periosteum in this region, is very rare, as is a middle ear inflammation in which the mastoid becomes involved, without suppuration in the cavity of the tympanum. I have seen one case in which the use of the nasal douche caused an inflammation of the mastoid of one side, without suppuration in any part of the ear, while in the other suppuration of the membrana tympani occurred. But the mastoid inflammation was quickly overcome by the use of leeches.

II. Until the formation of the abscess, the want of symptoms indicating the true seat of the disease. The symptoms were rather those of a chronic inflammation of the middle ear, being detailed by the patient as consisting of tinnitus, fulness, and occasionally slight pain. Certain it is, there was none of the agonizing distracting pain that patients with periostitis usually complain of.

III. The interval of apparent recovery after the evacuation of the pus.

In reviewing the case, the conclusion seems to me inevitable that we had from the beginning to do with a subacute inflammation of the mastoid portion of the middle ear, and which smouldered until the blazing up in the abscess opened by Dr. Hubbard. The origin of this was, of course, the coryza, for which the nasal douche was used. It was perhaps an inflammation of this part, which extended less rapidly than usual to the periosteum and tissues lying upon it, and it was on this account a concealed and dangerous foe. According to a theory of mine the second attack was essentially a new process attacking the former seat of disease, or *locus minoris resistentiæ*,—"the weak spot," as patients say, induced by some exciting cause that is unknown. The integrity of the nerve, up to a late period, is shown by the amount of hearing power exhibited on the evening that the perforation of the bone was made.

HISTORY OF THE OPERATION FOR PERFORATION OF THE MASTOID PROCESS.

Inasmuch as the indications for the perforation of the mastoid process are not very fully set forth in text-books, a very small space being given to this important subject, I have thought that a sketch of the history of the operation, with what seem to be the indications for its performance, might not be wholly uninteresting or unprofitable.

From a monograph on this subject by J. Arneman, Professor in the University of Göttingen, published in 1792, we learn that Riolanus (in 1649 according to Tröltsch) was the first author who inquired into the propriety of perforating the mastoid process *in cases of occlusion of the Eustachian tube*, for the purpose of removing, by injections through the opening, morbid secretions in the mastoid cells and cavity of the tympanum. Rollfink, afterwards, in an anatomical dissertation, published at Jena in 1656, also advocated the operation. J. L. Petit, according to Tröltsch,* was the first who actually performed the operation, which he did by means of a gouge and hammer.

Then we come to Valsalva's case, published nearly a hundred years after the suggestion of Riolanus, which has been claimed by all the authors as a case of perforation of the mastoid, and injection through it of the middle ear. One writer (Tröltsch) states that an otorrhœa was thus cured by Valsalva. I have examined the original passage in order to verify this claim made for Valsalva, and, if I am correct, there is no such claim by Valsalva himself. He simply states that he injected a fistula existing in this part, in the case of a nobleman; with what result he does not say. The passage is found in Valsalva's *Tractatus de aure humana*, edition of 1742, p. 89. The following is the side-note: "*Observatio ulceris processum mamillarem, per quod injecta, statim in oris cavitatem, licet undequaque illasam transmittebantur.*" The passage itself is as follows:—"*Adeoque mitto prolixius confirmare per quondam meam in viro humane observationem, de nobili scilicet viro, ulcere ad processum mamillarem, cum hujus carie laborante in quod quæ injiciebantur, illico ad fauces perveniebant adeoque a tympano, quo per illius processus sinuositates ascendebant, per tubam certe derivebantur*," etc.

I have ventured to translate the passage, with some freedom, but with correctness, as follows. After speaking of the Eustachian tube as a passage to the pharynx, Valsalva says: "I beg to confirm what I have said by an observation made on the living subject, a nobleman, who was affected with caries of the mastoid process.

* Text-Book, p. 470.

Whatever was injected into this ulcer came through to the fauces, from the tympanum to which the injected fluids proceeded through the sinuosities of this process, and from which they passed through the tube."

Valsalva is here demonstrating the function of the Eustachian tube. He makes no claim to have perforated the mastoid, but he simply asserts that he has injected a fistula in the mastoid, and that the fluid thus injected passed into the mouth. I cannot find any evidence in the passage or the context that his patient was cured of an obstinate otorrhœa, as asserted by Tröltsch, so that I think Valsalva must be left out, so far as any evidence from this passage goes, in the enumeration of those who have recommended or performed the operation of which we are speaking.

The surgeon to whom we are indebted for having fairly established opening of the mastoid as a legitimate surgical procedure, is Jasser, a regimental surgeon, who, in 1776, first performed it. His patient was a soldier, who had suffered for many years from suppuration and pain in the ears, which was not relieved by active but judicious antiphlogistic treatment. In this case there was an abscess of the mastoid, and death of the bone,—and thus the operation was performed under indications which any good surgeon of the present day would accept as peremptory. Although Jasser's operation was a creditable one to its author, it has been misunderstood, and classed by Wilde in the list of the same operations performed with such indications as "obstinate deafness."

Arneman, in the pamphlet before alluded to, details five other cases in which the operation was performed, and claims that in only one was there a bad result, and then death ensued. This was the somewhat famous case of Berger, a Danish surgeon, who caused it to be performed on himself, and died of meningitis induced by the operation. He admits, however, that it may be performed without avail.

The second case detailed by Arneman has no more accurate statement as to the pathological condition of the ears of the patient upon whom it was performed, than that *he was wholly deaf in both ears.* The operation did no good, but caused temporary blindness and faintness. In the third case there is also no account of the cause of the deafness: the result was an improvement of the impaired hearing as long as the wound was kept open. The opening was maintained by means of a leaden probe until cicatrization occurred.

The fourth case was that of an old lady, who had lost her hearing from a quartan fever. She had noise in both ears. The process was perforated, and injections of lukewarm water, which passed out of the nostrils, were made. After the injections had been made for four days there was a complete restoration of the hearing (sic), while the openings closed readily.

The fifth case was one of chronic suppuration in the ear, with acute exacerbations. The result was a cure after injections for 12 days.

These statements must of course be taken with some allowance, inasmuch as with the exception of two cases, the first and the last, there is no exact knowledge of the disease causing the symptoms of deafness and tinnitus. But even these show that perforation of the mastoid is not a dangerous procedure, and that when performed under such indications as those in Jasser's case, it is not only a very simple, but a very beneficial operation.

In Frank's* treatise on the ear, which is rather a cyclopædia than a text-book, several cases are alluded to; but here also the indications which direct their performance are wanting, and they are consequently useless as guides to the surgeon.

Arneman, in a style of surgical writing which has now, happily for us with our more accurate knowledge, passed away, lays down the following indications for the performance of the operation. They are inserted here in order that the distrust with which surgeons have looked upon interference with the mastoid process in aural disease may be accounted for.

I. In any case of absolute deafness, or in any case where the impairment of hearing is constantly increasing, and for which all other remedies have been used without effect.

II. When, in case of an ulcer or suppuration of the ear, the morbid material has become collected in the cells of the mastoid, or the cells have become carious. (This is certainly a good indication, and the one upon which Jasser acted.)

III. If the normal mucous secretion has become hardened or collected in excessive quantity.

IV. In cases where pain and noise, which would finally destroy the hearing, have existed in the ear for a very long time.

V. In cases of stoppage of the Eustachian tube not remedied by injections.

The simple operation of creating an external opening for retained pus, and thus preventing its passage to the brain and into the circulation, was thus so distorted from its proper application, that the leading writers seem to have been in as a great state of bewilderment about it as were the English and American surgeons, until a few years since, in regard to the use of the Eustachian catheter. The text-books either mention it to condemn it, or in such a way as to plainly show that they do not realize the true indications for its performance.

So valuable a work as that of Wilde, for example, confounds such an operation as that performed by Jasser with the others quoted by Arneman, which were undertaken because the first operation had been successful, and without any regard to the condition of the ear, but for the relief of a symptom—deafness. We must never forget, however, the great service already mentioned in this paper, which Wilde did by advocating the free incision down to the bone in all cases of inflammation of the mastoid.

In the general advance of our exact knowledge of diseases of the ear, the merits of the operation of perforating the mastoid were again discussed, and it has now been replaced where Jasser first placed it, on a sound basis. Tröltsch,* in 1861, reports a case of acute suppuration in the middle ear with perforation of the membrana tympani, in which he perforated the mastoid with a probe, some days after he had made Wilde's incision with only partial relief.

In such disrepute was this operation at that time, because of the unhappy fate of Berger, who caused it to be performed with no good indications, that Tröltsch confesses that he would have hesitated to undertake this simple surgical procedure with any but the instrument which he employed. The case was a successful one. Eight cases are reported by Tröltsch; that of Petit is considered the first, and Jasser's the second; but Valsalva's injection of a fistula already existing is considered as an operation.

The operation may now be sure to be fairly established and is frequently undertaken, it having been performed by Follin, Turnbull (Philadelphia), Schwartze, Pagenstecher, Hinton (London), Jacoby, Agnew (New York), and by myself since 1859.

* Praktische Anleitung, &c., p. 347.

* Virchow's Archiv, Bd. 21, p. 295.

Jacoby* has especially put the profession under obligations by his valuable report of a case, with the indications for the performance of the operation. Very recently Köppe† and Schwartze report a case of epilepsy caused by retained pus in the middle ear, which was relieved by perforation of the mastoid.

For the performance of the operation the trephine is rarely used. The bone is nearly always found softened by disease, in the cases requiring an opening into the cells, or still more commonly fistulous. A small gouge or the like is then a very good instrument with which to make or enlarge an opening. A writer in the *Dublin Quarterly* for Sept., Colles, reports a case in which he lately did the operation by means of a small elevator. I think it important, before closing the opening with lint, to carefully syringe the opening with lukewarm water, and to remove any granulations or other obstructions in the external auditory canal, which may prevent the free passage of pus.

The site of the opening will usually be indicated by the seat of disease. The fistula is usually found near the summit of the bone where a large cell exists, and next in frequency at the lower portion, where the air-cell is also large. The centre of the bone is usually of a firm non-cancellated structure.

I may be permitted, in conclusion, to tabulate the conditions on which interference with the mastoid seems to be indicated:—

I. The integument and periosteum should be freely divided over the mastoid in all cases in which there is pain, tenderness, and swelling in the part. (Wilde.)

II. Such an incision should also be made wherever severe pain exists, referred to the middle ear, which is not relieved by the usual means, *i.e.*, leeches, warm water, etc.

III. An explorative incision should be made when we have good reason to suspect the existence of caries in this part.

IV. The mastoid bone should be perforated after such an incision wherever the bone is found diseased, or a small fistulous opening should be enlarged. It should also be perforated when we have good reason to believe that there is pus in the middle ear or mastoid cells which cannot find an exit by the external auditory canal.

V. The mastoid should be perforated in the case of a suppuration of long standing, with frequent and painful exacerbations.

Original Communications.

ANTERO-POSTERIOR SYMMETRY, WITH SPECIAL REFERENCE TO THE MUSCLES OF THE LIMBS.

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Article VIII.

THE DIGITAL FLEXORS—SPECIAL DIGITAL MUSCLES OF THE HAND AND FOOT—CONCLUSION.

The system of digital flexors on the front of the forearm and palm, and back of the leg and sole, respectively, is double: that is, there is on each limb a superficial and a deep set; the former is perforated and serves second internodes; the latter perforates, and is sent to distal phalanges. These sets are correlative, and symmetrically disposed, with certain interesting modifications to be presently noticed.

The *flexor digitorum sublimis s. perforatus* lies upon the whole length of the forearm in front, covering the deep flexor, arising from the internal condyles and adjacent parts, dividing on the palm into four tendons that serve the four lesser digits—the thumb lacking a tendon from this source. In man, the corresponding muscle of the hind limb, called *flexor brevis digitorum pedis*, is restricted to the sole; but in some other animals it runs part way up the leg behind, taking origin from the outer surface of the tendon of the deep flexor, before this subdivides, instead of from the os calcis, as in man. The flexor brevis (*s. sublimis*) of the foot exhibits in other respects the essential characters of that of the hand; it is superficial, perforated, and inserted into second phalanges. Only, it should be observed, it serves the teleological, not the morphological, representatives of the four lesser fingers; that is, the second–fifth toes; whereas to be strictly symmetrical with the corresponding muscle of the hand, it should go to the first–fourth toes, and leave the little toe unsupplied. It is as if the insertions were collectively shifted one digit outward. But this is palpably a teleological modification in reference to the functional representation of the thumb by the great toe. The comparative anatomist is prepared to meet with such a change by the still greater modifications that the deep flexors show in the distribution of individual tendons. The flexor digitorum brevis, then, of the sole of the foot, is the longitype of the flexor digitorum sublimis of the forearm and palm.

Attentively considering the deep flexor system of the fore limb, we see that each of the five digits receives a tendon that is "perforating," and that goes to an ungual phalanx. These five tendons lie in the same plane; and looking at them after their division at the lower part of the forearm, we might suppose they had come down from a single muscle above. Very likely this is so, in idea; but in effect, the fleshy mass to which these tendons belong has been differentiated into two pretty distinct portions. The smaller, outer (radial) one of these serves a single tendon that goes to the thumb; it is called *flexor longus pollicis*. Its dismemberment is in evident adaptation to free and individual motion of the digit it supplies. The larger, inner (ulnar) mass may be split up to a varying distance above the wrist, but remains, in effect, one muscle with four tendons that act upon the four fingers.

The deep flexor system of the leg and foot—obviously the correlative of the above—is apparently symmetrically subdivided into two portions; an outer, fibular mass, serving the great toe alone, and called *flexor longus pollicis pedis* (or *fl. long. hallucis*); and an inner tibial moiety, giving off four tendons to the four lesser toes; this is the *flexor longus digitorum pedis*. Now it would be at once surmised that the two portions with the same names in the two limbs were the true morphological correlatives, more especially since the great toe and thumb divisions both occupy homologous positions in their respective segments, viz., radial and fibular. But in truth this is not so; the correlation is apparent, not real; these muscles that in man have been pressed exclusively to the service of the thumb and great toe are not morphologically correspondent to each other, but each is the correlative of the common digital flexor of the opposite limb. It is easy to show, not only how this can be, but that it is so.

In the first place, it is necessary to disabuse the

* Archiv für Ohrenheilkunde, Bd. iv.
† A. f. O., Bd. v., p. 282.

mind of an impression that the flexor longus hallucis (i.e., the *fibular* division of the deep flexor system) is always devoted exclusively to the great toe. In fact, this is an exceptional office of the fibular flexor, and represents a modification peculiar (so far as I know) to man. We might have suspected some disguise here, seeing that this fibular (outer) muscle in man afterwards crosses the ankle obliquely, gains the inner side of the foot, and is appropriated to the inner digit (great toe); whereas, in the fore limb, the radial subdivision remains on its own side, and supplies the digit of the same side (thumb*). We have only to go one step downward from man to see an entirely different disposition of the two divisions of the deep flexor of the toes. In the gorilla (*fide* OWEN, *op. cit.*, pp. 58, 59) the tibial flexor "divides into three chief tendons, which are connected with those of the 'flexor accessorius;'" one goes to the fifth toe; one to the second; and one forms a perforated tendon of the fourth toe. The fibular flexor also divides into three tendons, which supply the great toe, the third, and the fourth digits. In some other five-toed animals the tibial flexor may abort and be fastened down before reaching the toes to the tendon of the fibular flexor, which then supplies the four lesser toes. I found this disposition in the opossum, joined with some specialties not necessary to mention here. In the platypus, again, there is no tibial flexor; the large fibular one splits into three tendons to supply the first, second, and fifth toes; the third and fourth are served by tendons of a muscle confined to the sole, but which I take to be a part of the same. We see, then, that there is little constancy in the distribution of the tendons of these two dismemberments; that the fibular flexor is the larger and more important of the two; and that in all animals, as far as known, the general disposition of the tendons is the reverse of that found in man.

The flexor longus digitorum pedis is the correlative of the flexor longus pollicis manûs; the flexor longus pollicis pedis is the correlative of the flexor profundus digitorum.†

In man and other unguiculates, the deep flexors of the digits are reinforced by several accessory muscles, called *lumbricales*. These occur, if at all, in both limbs, and are obvious homologues. With the same general disposition, they present minor modifications in different species. In man, for example, where the distinction of special flexors for the thumb and great toe is well marked, there are only four lumbricales in each member,—the single tendon being unsupplied. Here it will be observed, that while the muscles apparently remain fixed respecting the digits, they are appropriated to non-correlated flexors: viz., to flexor longus digitorum of the foot, and to flexor profundus digitorum of the hand. It seems that they apply themselves to whichever tendons come to the digit they help to move, and should therefore be homologized according to digits, not according to tendons. Thus in the ape's foot, where the flexor longus hallucis and flexor longus digitorum have three tendons each, lumbricales are associated with some of the tendons of both. If we regard lumbricales as parts of the particular muscles with the tendons of which they are associated, in man at least they have not direct homology with each other. The former view is probably the more correct. Further details respecting the lumbricales are unnecessary, after determination of their collective homology. But it may be observed—and the same remark applies to both sets of interossei, and to the individual tendons of both flexors and extensors—that the reference of any particular lumbricalis, interosseus, etc., to its longitype in the other limb, is to be made according to the antitypy of individual digits, *e. g.*, first metacarpal and thumb=fifth metatarsal and little toe, etc. Thus the fore and hind sets are mutually representative in inverse order.

The tendons of the deep flexor of the toes are in man also reinforced by what is called the "*musculus accessorius*." It is far from being a constant muscle in the mammalian series, and is apparently a teleological addition, to counteract, in part, the oblique line of traction of the digital flexor. It has no correlative in the hand. So with the *palmaris brevis*, which is merely a development of a few muscular fibres over the annular ligament.

The rotular and plantar interossei of the foot are plainly the antitypes of, respectively, the anconeal and palmar ones of the hand. It is unnecessary to go into detail here. Identification of individual interossei is to be made upon the principle mentioned above.

There only remain for consideration two interesting groups of muscles: the short special ones that act upon the lateral digits of either extremity. Those of the thumb have received the collective name of *thenar* muscles; those of the little finger are known as *hypothenar*. In the foot no corresponding names seem to have been imposed. They occur, with different digitate animals, under varying conditions. In man, they are more highly specialized, probably, than in any other animal; and individual muscles are more distinctly defined. This is particularly the case with those of the thumb. The gorilla's great toe, however, is more specialized in respect of its little muscles than that of man's is—in fact, it has as many as the human thumb. Through various modifications, and blendings with each other in different ways, we may say, as a generalization, that there are three muscles in each set: a flexor, an adductor, and an abductor. The first of these appears to be the most constant in each of the four digits under consideration; it often, or usually (particularly with the thumb and great toe), consists of two parts, or at least heads, between which passes the tendon of the flexor longus pollicis; it arises from carpus or tarsus close by the articulation of the metacarpal or metatarsal, on which it lies, and passes to the base of a proximal phalanx. The adductors are generally fan-shaped muscular planes, more or less transverse across the palm or sole, lying between lumbricales and interossei, variously, with varying origin, converging to be inserted into the mesial side of the base of a proximal phalanx. The adductor may be differentiated into two distinct muscles, as in the great toe of the gorilla, where they are called adductor obliquus and adductor transversalis; or, in that of man, where they become adductor proper and "transversus pedis." The abduc-

* This fact, and others that follow in the above paragraph, help to show that the thumb and great toe are only functionally or teleologically correspondent, and that the thumb and little toe are morphological correlatives, as declared in a preceding paper.

† In lowest quadrumana the long flexor of the thumb may abort at the wrist; as the long flexor (tibial) of the great toe of some animals does at the ankle; it is then only a little fasciculus from the flexor profundus digitorum. In some other five-fingered beasts, there is no distinction of flexor pollicis; one indivisible muscle sends five similar tendons, one to each digit. Such would be, also, the primitive or typical condition of the long flexor of the toes of five-toed animals. Symmetrical subdivisions of these two would be separation of the fasciculus belonging to the outer tendon in each limb, viz., that of the thumb and little toe. The departure from this that actually takes place in the leg of animals below man is the increase in size of this outer (fibular) division, with corresponding increase of number of tendons, so that other toes besides the little one are supplied. In man, by a curious sort of compensation, the one-tendoned fasciculus changes places, as it were, with the four-tendoned in the leg, thus bringing about a simulated symmetry between the long flexors of the thumb and great toe, whereby they both appear on homologous outer—radial-fibular) sides of the forearm and leg; whereas, not being morphologically correlated, they should appear on different sides of the two limbs, as they really do in lower animals.

tors are generally single, and form the outermost part of the fleshy "balls" of the digits in question; but may be doubled by differentiation, as in the human thumb, whence "opponens pollicis," in addition to abductor proper. Besides these variations, the muscles may blend in different ways, and so be obscured; moreover, they are gradually atrophied, *pari passu* with functional degradation of the digits they act upon; and disappear, of course, with removal of the latter. The foregoing generalizations apply to their fully developed condition.

The thumb and the great toe being teleological correlatives—entirely correspondent in functional position and application—we accordingly find their special muscles developed very nearly symmetrically; and they are more highly specialized than those of either the little finger or the little toe. This is in direct relation to the size and importance of these digits, and their freer movements. They thus correspond better with each other in detail than those of the really homotypic digits do. Thus there are in man three muscles of the thumb and three of the great toe—an adductor, a flexor, and an abductor (the opponens being a part of the latter); and only one—a flexor—of the little toe. But in some lower animals, not only do the thumb and little finger become almost identical with regard to their special muscles, but the great and little toes are also as nearly alike in this respect, so that the difficulty that is apparent in man is taken away. In man, as in all other animals, the identification is to be made with reference to homotypic digits, not to the special muscles that are found in any given case. The special muscles of the great toe, then, are the correlatives of the hypothenar; those of the little toe are the correlatives of the thenar. If it be desired to push the correspondence further, identification of individual muscles may be made by reference to position and function—as of flexor brevis with flexor brevis, etc.

As a *résumé* of the work here concluded, I may say:—That few muscles have not been shown to have correlatives in the opposite limb; that of some of these, now seeming to have none, correlatives will probably be found; that some of the correspondences here laid down are obscure or doubtful; that some others are provisional, subject to further investigation; that most are demonstrably symmetrical, and have been demonstrated so to be.

I am not so sanguine as to suppose that it will not require revision and modification. But however far I may have erred in working out details, I may be considered unfortunate indeed if I have not succeeded in establishing the fact of antero-posterior symmetry. I only profess to have surveyed a field, the existence of which is ignored by some, and denied by others. I hope that those who are convinced that antero-posterior symmetry is no fanciful idea, but a real thing, may be incited to its fruitful cultivation.

No one can be unmindful of a tendency, and possible result, of squaring the effectual operation of 'vital' by that of 'polar,' or other physical, force, usually held to determine forms of inorganic, as distinguished from organized, matter. But a mechanical philosophy of anatomy is certainly not monstrous beside a chemistry of physiology and the possible chemistry of mind. Nor is the gulf between a man and a crystal in the least narrowed by bridging it over. Yet, if reason ever should determine that a man is a masterly mode of molecular motion, and only this, the conclusion would have to be squarely confronted, without hedging in faith. For the measure of faith in reason is the measure of reason in faith: if faithful reasoning fail of truth, the Maker, not the thing made, is responsible.

ADDENDA.

Diarthromere.—A word needed to supplant "vertebra," in the sense attached to this last in these papers. "Vertebrate" may be sufficiently definitive of a backboned animal, but "vertebra," at best a meaningless name of certain 'bones,' is inadequate to express the required idea of a whole segment of an animal constructed upon the double-ring plan, besides being so firmly contracted by custom that the necessary expansion is undesirable if not impracticable. The typical segment—zoönule, or somite—of single-ring animals (articulates) is already called *arthromere*, of which the proposed word is an obvious analogue. Conforming to the proper requirements for such cases, *diarthromere* may be stamped by good usage.

Cephalization.—In this connection, *cf.* DANA, Prof. J. D., *Am. Journ. Sci.*, 2d ser., xxxv., p. 65; xxxvi. (July, 1863), p. —; xxxvii., p. 158; xli., p. 164.

Polarity.—In further consideration of this principle, *cf.* WILDER, Prof. B G., "On the Morphological Value and Relations of the Human Hand;" *Am. Journ. Sci.*, xliv. (July, 1867), p. 44. This "abstract of a paper read before the Nat. Acad. Sci.," which I had not examined before writing, is a concise and lucid exposition of fundamental principles, in the form of twenty-five propositions. Props. 9, 10; 14, 15; 18, 19; 21, 22; are especially pertinent and important. The writer adds four others, of the nature of corollaries, insisting, in particular, upon the inconsequence of the numerical disproportion in the phalanges of pollex and hallux; "the conclusion reached as to the normal position and homology of the thumb . . is confirmed by all purely morphological considerations."

I gladly avail myself of this opportunity to offer the thanks that are due to my friend, Dr. John Winslow, of New York, for his careful revision of proof-sheets, and for other substantial favors he has shown me in connection with the present publication.

Progress of Medical Science.

TWO CASES OF DEATH AFTER RITUAL CIRCUMCISION.—Dr. Schwarz has published in the *Wiener Med. Presse* the cases of two boys, eight days old, who died—one five days after circumcision, and the other twenty-five days after the same operation, both of phlegmonous inflammation and sloughing of the part. Dr. Schwarz deprecates the custom with great warmth, and expresses the wish that it may be laid aside.

LARGE DOSES OF OPIUM IN TETANUS.—Chloral is being extensively tried in this malady. Some statistics respecting its efficacy will be now most welcome. In the mean while it should not be forgotten that heroic doses of opium have, in some hands, been successful. *L'Union Médicale* gives the experience of Dr. Chazarin, who practised for seven years in the French colony of Senegal. He mentions altogether twenty-eight cases, twenty of which, treated by various means, terminated in death. The eight others were submitted to the following treatment: First day, 15 grains of gummy extract of opium in solution; second day, 22 grains; third day, 30 grains; fourth day, 37 grains; fifth day, 45 grains; and so on, increasing the dose each day seven grains if the symptoms did not improve. When 90 grains were reached, the doses were diminished in the

same ratio from day to day. Of these eight patients one only died, and this in consequence of frictions of oil of turpentine imprudently undertaken on the advice of a neighbor. These cases deserve particular attention, though they are not very uncommon, as some analogous ones were published in *L'Imparziale* of Florence in the year 1868. Quinine was, however, in these latter instances added to the opium.—*Lancet.*

Small-pox without Eruption.—An epidemic of small-pox broke out this summer at a place called Limite, near Empoli (Italy). In publishing an account of this epidemic, Dr. Landucci states that several persons presented all the symptoms of the complaint, but had no eruption. Dr. Anciaux, in *L'Art Médicale*, corroborates the cases, and says that he witnessed the same peculiarity whilst the small-pox was prevalent in his locality.

The Liver the Seat of Formation of Urea.—The latest researches upon the place of origin of urea, and especially the beautiful experiments of M. Gréhant, have demonstrated that the kidneys are by no means secretory, but purely excretory, organs for urea. Dr. Cyon, in the last number of the *Centralblatt*, publishes a few facts in the form of a provisional communication, to show that it is probably produced at the liver. The plan of experimentation adopted (in common with M. Istomin) was as follows: The whole of the blood was abstracted from the carotid of a dog, and a portion, after being defibrinated, was transmitted by means of mercurial pressure through the liver. Coincidently three canulæ were introduced—one into the inferior vena cava, the second into the hepatic artery, and the third into the vena porta. The results of careful analysis showed that the blood which had passed through the liver contained a much larger proportion of urea than ordinary arterial blood. In one experiment 100 c. c. of the arterial blood when defibrinated contained 0.08 grammes of urea; but after having been passed four times through the liver, the same quantity contained 0.176 grammes.—*Lancet.*

Cancer Hospital of London.—Dr. Alexander Marsden, in his monograph on "A new and Successful Mode of Treating Certain Forms of Cancer," details some valuable statistics derived from the registers of the Cancer Hospital in London. Scirrhous cancer preponderates in the female breast; epithelial chiefly affects the male in the lip. Of 1,467 persons affected with epithelial disease, 1,022 were males. Of 445 cases in which females suffered from epithelial cancer, the lip was affected in only 5 instances.

For and against Tobacco.—Dr. Blatin, in a work recently published—*Recherches Physiologiques et Cliniques sur la Nicotine et le Tabac*—examines the evil effects on the human system of the use and abuse of tobacco. On the other hand, Dr. J. C. Murray of Newcastle has written an enthusiastic vindication of snuff in his little book on snuff-taking, just published by Churchill and Sons, from which his paper at the Newcastle meeting was an extract: and the marvellous successes of the German soldiers on a diet of black bread, pease-pudding, and twelve cigars a day, has created a strong reaction in favor of the weed, so long abused by the unimaginative as the food of dreamers, and reviled as noxious by those who have no mind to use it.—*British Med. Journal.*

The Alkaloids of Opium.—Professor Roscoe, in commenting at the meeting of the British Association on the interesting researches of Matthiessen and Wright on morphine and codeine, observed that they have thrown a new light on the constitution of these opium alkaloids. Treated with hydrochloric acid, morphine loses one molecule of water, and gives rise to a new base, called apomorphine. This differs in a remarkable manner from morphine, both in its chemical and its physiological actions; being soluble in alcohol, ether, and chloroform, whereas morphine is nearly insoluble; and acting as the most powerful emetic known, one-tenth of a grain producing vomiting in less than ten minutes. Codeine, which only differs from morphine by CH_2, also yields apomorphine on treatment at a high temperature with hydrochloric acid, methylchloride being at the same time eliminated.—*British Med. Journal.*

Antidotal Effect of Chloroform on Strychnine.—To confirm the reputed effects of chloroform on strychnine, and the cases reported in the 12th edition of the *United States Dispensatory*, Dr. W. H. Gobrecht, of Cincinnati, Ohio, reports a case of poisoning, where a young man, aged about 20 years, had taken seven-eighths of an ounce of a saturated solution of strychnia, with crystals in excess, in chloroform, both by inhalation and ingestion, without any other result than complete and prolonged anæsthetization and some temporary subsequent numbness, with no known injurious consequences after two months had elapsed.—*Trans. Penn. Med. Society.*

Labial Thrombus.—Dr. T. G. McPherson, of Beaver Falls, Pa. (*Trans. Penn. Med. Soc.*), publishes a case of labial thrombus the size of a goose-egg, which he relieved by puncture. After turning out the clot, he inserted a piece of soft cotton saturated with a solution of plumbi acetas, removed it and applied a compress, which was also removed next day, no further treatment being necessary.

Tympanitis in Typhoid Fever.—Dr. Senderling, of Berwick, Pa. (*Trans. Penn. Med. Soc.*), has seldom seen annoying tympanitis in this disease since using the sulphite of soda, and in only two cases the last year has he prescribed the ol. terebinth. The rationale of the above treatment of typhoid fever, so far as the sulphite of soda is concerned, he is not prepared to expatiate upon; but, in his opinion, it seems to have a marked effect upon the "materies morbi."

Management of Scarlet Fever.—S. P. Zeigler, M.D., of Carlisle, Penn. (*Trans. Penn. Med. Soc.*), after describing an epidemic of scarlet fever which prevailed in the boroughs of Mechanicsburg and Carlisle, says that he doubts as to the contagious nature of this fever, and bases his opinion on the following facts: 1st. That one member of a family will be attacked with the disease while others will escape, and that the disease does prevail in one section of the town or county, and subsides, to appear again in another section of the town or county quite remote from the first locality, without any direct communication between these districts. 2d. That a large proportion of children, compared with the population, were exempt from the disease. Can a disease so distinctly marked, of such uniform characteristics except in type, be produced from any other atmospheric influence? The treatment he adopted in the epidemic was the following:—Keep the bedroom cool and well-ventilated, sprinkle the floor frequently with a saturated solution of chloride of lime. A mild laxative, if the bowels have not already been relieved, of castor-oil or other mild aperient. Prescribe tonics and stimulants freely, such as sulph. quiniæ, tinct. ferri chloridi, and acidi sulph. aromat., as the case may suggest; chlorate of potassa as a gargle, and externally, to the throat, spts. terebinth. In the latter stage of the dis-

ease, when the tonsils are much ulcerated, and the secretions acrid, he uses the argent. nitrat. gr. xxx. to f. ʒ j. aquæ, as a wash, applied with a camel's-hair pencil or probang.

The percentage of deaths in his practice was 5½ per cent.

INSANITY.—Charles A. Lee, M.D, of Peekskill, N. Y. (*The Jour. of Psychological Medicine*), in his able "Medico-Legal Opinion, Relative to the Sanity of Carlton Gates," asserts that the time will come when insanity will be divided into two grand classes, viz.: *insanity without positive delusion, and insanity with delusion, or affective and ideational insanity.* The present artificial classification of the disease is certainly not in conformity with nature, and the one suggested is really more scientific than one which, by postulating an exactness that does not exist, is a positive hinderance to an advance in psychological knowledge. Until this time arrives, medical experts will have to recognize forms of mental derangement where there are no delusions. The deviations from healthy mental life are innumerable, and the Divine mind can only be pronounced perfectly sound; but let us not make divisions in knowledge where there are none in nature, but regard all present classifications as only provisional. Some writers, for example, would make four kinds of insanity, with reference to the perceptions, the emotions, the intellect, and the will, which, it is stated, may be disordered aggregately or separately; but nature knows no such classification; these forms of insanity run into each other, or co-exist in the same case; the intellect, for example, cannot be deranged without affecting the will; *delusion*, the true test of insanity, may exist in all forms of it, and the same is true of emotional disturbance, etc.

NECROSIS FROM SKATING.—Prof. Moses Gunn, of Rush Medical College, Chicago, Ill. (*Chicago Med. Journal*), recently exhibited four cases of necrosis of the tibia, occurring in boys and young men. One case was remarkable chiefly on account of the large extent of superficial ulceration as compared with the small amount of bone disease. Again, another fact worthy of remark was, that they were so often caused by skating. A young man skates for several hours on a very cold day, comes home chilled through, and goes through the familiar history of necrosis. All of the above cases were young men and boys, and three out of four contracted the disease by skating.

A PECULIAR INFLAMMATION OF THE LOWER LIP.—Prof. R. Volkmann, of Halle (*St. Louis Med. and Surg. Journal*), observed five times a peculiar form of chronic inflammation of the lower lip—*cheilitis glandularis apostematosa*—concerning which he finds no account in literature. All the patients were adults. Three had been suffering from constitutional syphilis a short time before. Two were quite healthy, and assert never to have been syphilitic.

The course of the cheilitis was similar in the five cases, though of different intensity. The lower lip gradually swelled, without much pain, and became hard and firm, so as to give the countenance a coarse, disagreeable expression. The mobility of the lip was much impaired; in one case lost. The swelling extended through the thickness and breadth of the lower lip, and down to its union with the chin. In one case it affected the upper lip about the corners of the mouth. The skin was slightly reddened. In all cases the mucous glands of the lip were swelled to the size of hemp seeds or more, and could be felt through the mucous membrane in unusual numbers and extent as nodular masses. Their excreting ducts were much dilated, some of them large enough to admit a fine probe. Pressure, which caused but little pain, would evacuate from them a turbid mucous or muco-purulent secretion. In three cases abscesses formed. In one case the mucous surface of the lower lip showed from 12 to 15 fistulous openings. In all cases an active catarrh of the mouth and fauces existed. Two cases were extremely obstinate, and left hospital with little improvement; the other three were cured in from 4 to 8 weeks by the internal use of iodide of potassium, mouth washes of chlorate of potassa, and light cauterization of the lip. The disease being an inflammation of the mucous glands of the lip, the author proposes the names of *cheilitis glandularis* or *myxadenitis labialis.*

IMPROVED FORMULA FOR CHALK MIXTURE.—To obviate unpleasant and dangerous souring of chalk mixture, glycerine may be substituted for the sugar, according to the following formula:—℞ Cretæ Preparat., Glycerini, *āā* ʒ ss.; Pur. G. Acaciæ, ʒ ii.; Aquæ Cinnam., Aquæ, *āā* ʒ iv. Rub well together until thoroughly mixed. This mixture will keep during a whole summer. The glycerine exerts a positively soothing effect upon the bowels, as in some degree arresting fermentation.—*Boston Journal of Chemistry.*

SPARGANCINE.—H. Reinsch (*Chem. News*) finds that the seeds of the asparagus berries—dried and roasted—are an excellent substitute for coffee. Of far more importance, however, may be a substance which the author has discovered in the berries, viz., the pigment contained therein, and named *spargancine*—a yellowish-red coloring matter, soluble in alcohol and ether, and yielding, with salts of lead and alumina, yellow-colored pigments.

PERUVIAN BISMUTH.—The increasing price of bismuth, which has heretofore been almost exclusively obtained in Saxony, has caused search to be made for this metal in other countries, which has resulted in bringing Peruvian bismuth into the market. According to Berth, it contains:—

Bismuth	93·36
Antimony, with a little tin	4·57
Copper, with a little iron	2·06

This metal is superior to the Saxon, as it contains no arsenic or sulphur.—*Journal of Applied Chemistry.*

ARTIFICIAL OIL OF BITTER ALMONDS.—The substance known in commerce as artificial oil of bitter almonds is nitrobenzine, $C_6H_5(NO_2)$. It is prepared by adding benzine in small quantities at a time to warm fuming nitric acid; the nitrobenzine, which separates on cooling, is subsequently washed with water. The reaction is represented:—$C_6H_6 + HNO_3 = C_6H_5(NO_2) + H_2O$. —*The Chemist and Druggist.*

QUINQUINA-CHOCOLATE.—Dr. Hengé (*Les Mondes*) has prepared an extract of Peruvian bark so as to possess no unpleasant taste, and this is mixed with pure chocolate paste, so as to form readily-portable, and, at the same time, an agreeable dietetic medicine. The author of this preparation stated, at a meeting of the Central Imperial Society of Agriculture, that it is sulphate of quinine.

AGED PEOPLE.—There are 168 persons in Salem, Mass., over 80 years of age. The oldest is a female, aged 102. Samuel Vogue, of Dudley Township, Henry County, is the oldest person in Indiana, being 107 years old.

CAUSES OF APHASIA.—According to Dr. Julius Sander, of the Royal Charity, Berlin, *emboli* and *thrombosis* frequently give rise to this disease.

CHOREA.—Dr. Mendel, of Berlin (*Am. Jour. Insanity*), remarked in a meeting of the Berlin Psychological Society, that he had observed the favorable influence of Fowler's solution in many cases of chorea.

INFLUENCE OF CANNON FIRING UPON RAIN.—M. Charles La Maont, apothecary at Saint Brieuc, in France (*Jour. of Applied Chemistry*), has published some valuable observations on the influence of artillery firing upon the fall of rain and the force of the wind. During the siege of Sebastopol, soon after the firing commenced the sky became obscured with clouds and a fine rain began to fall, which was sometimes followed by a deluge or whirlwind. The author then proceeds to show how rain could be produced at will by a judicious discharge of artillery. There is some confirmation of the theory in the fact that a violent rainfall has attended the recent cannonading in France.

If this theory is true, meteorological stations with suitable artillery would have been useful as rain-producers, in this country, during the last three months of drought.

TENOTOMY OF THE RECTUS EXTERNUS.—In 80 cases of *exquisite myopia progrediens*, of which the late Professor Graefe took exact notes, as the result of the tenotomy of this muscle, 70 remained stationary after the operation, 4 continued slightly progressive, and but 6 continued as progressive as before the operation.—*Dub. Quar. Med. Science.*

VENEREAL POISON.—Dr. J. Morgan, Prof. of Surgical and Descriptive Anatomy, Royal College of Surgeons, Ireland (*Dublin Quart. Journal*), has observed 1,582 cases of venereal disease in the Lock Hospital, for the last two years, and records the remarkable fact that at this hospital *all* cases of primary sores, as a rule, are sooner or later followed by constitutional signs, often before the patients leave the hospital, and frequently before the healing of the primary affection.

THE OPERATION OF SUB-HYOIDEAN PHARYNGOTOMY.—Langenbeck believes this operation is destined to take an important place among the operations on the larynx. The operation was first described by Malgaigne, in 1835; but Vidal claims the credit of its invention, and asserts that Malgaigne derived the operation from him. The operation was first performed by a surgeon of the French navy, for the removal of a tumor of the epiglottis. Langenbeck performed the operation for the first time in July, 1862, for the removal of a fibrous tumor of the size of an apple, dislocating the thyroid cartilage downwards and to the left side. In 1863 Follin performed the operation successfully on a boy, for the removal of a polypus of the larynx, without tracheotomy. Débroux, of Orleans, in Nov., 1863, performed the operation on a man, æt. 52, for polypus of the larynx. —*Dublin Quarterly Journal of Medical Science.*

NITRATE OF AMYL.—This compound, indicated by the formula $C_5H_{11}NO_2$, and strongly advocated by Drs. Bruntin and Austin in *angina pectoris*, is a pale straw-colored, volatile, inflammable fluid, with an odor like that of over-ripe pears. It is prepared by acting on fusel oil with nitric acid.

CHLORAL.—Sir Jas. Y. Simpson found that sickness is obviated by taking the chloral with lemon juice.

PREMATURE PRESBYOPIA.—Trousseau spoke of premature presbyopia—presbytie prématurée—as one of the most frequent and remarkable symptoms in diabetes. Dr. Fitzgerald, of Dublin, is not aware of this having been noticed by any other author.

GLYCOSMIC AMBLYOPIA.—Dr. Fitzgerald, St. Patrick Dun's Hospital, Dublin (*Dublin Quarterly Journal*), reports a case of glycosmic amblyopia in a diabetical patient, blacksmith, æt. 42, and is inclined to look upon the case as one of atrophy of the retina—a condition described by Soelberg Wells.

M. Testelin (*Annales d'Oculistique*), has published a curious case of glycosmic amblyopia following an injury, in which no hemorrhagic spots were present; the left optic papilla appeared pale and the vessels small.

AN APPROVED VESICANT PLASTER.—M. Delpech (*Jour. de Chimie Médicale*) recommends the following formula for his new vesicant plaster:—Gelatin, 2·09 parts; water, 10 parts; alcohol, 10 parts; cantharidinate of potash, 0·20 part; glycerine, 9·5 parts. The mass should be equally spread on thin gutta percha, a definite quantity being present on each square inch.

ETHER INFERIOR TO CHLOROFORM.—Dr. Charles Kidd, of London, England, editor of the *Mirror of the Lancet*, and author of a work on "Anæsthetics," writes an interesting and instructive letter to the *Boston Medical and Surgical Journal*, in vindication of the claims of American discoverers of ether as an anæsthetic, in answer to those who are constantly publishing articles in English journals upholding the assertions of the late Dr. Simpson. In it the writer asks the subjoined question: "But will the uncompromising logic of facts agree with the pronouncement of Clymer, Otis, and others, of America, that ether is inferior to chloroform, and all the glory is due to the late Professor Simpson?"

POISONING BY WILD PARSNIP.—Lieut. Carpenter, U.S.A., stationed at Ruby Valley, Nevada, recently transmitted a specimen of the "wild parsnip" plant to Dr. Stone, of San Francisco, Cal., and informed him that three men had eaten some of its root; in about half an hour they were seized with unconsciousness. Two of them, who had each eaten a whole root, died at the end of about an hour and a half; the other, who had taken a small portion only, recovered.

The symptoms resembled, with the exception of loss of consciousness, those of strychnia poisoning.

A NEW DRUG.—MM. Rabuteau and Peyre have been experimenting with the root of a plant in use at the Gaboon as an ordeal poison, and locally known as m'boundou or icaja. It will be remembered that it was from this source that the highly valuable Calabar bean was obtained and utilized in medicine. The authors state that, even in very dilute decoctions, it is very bitter, and appears to contain one or more alkaloids, since the aqueous decoction is largely precipitated by iodide of potassium, and also by phospho-molybdic acid. The poisonous effects of this substance bear some similarity to the effects of brucia, but the authors state that, under certain conditions, this poison does not hurt men. Some of the lower animals are readily killed by it; a dose of three milligrammes of the alcoholic extract, placed under the skin of a frog, kills it; and rabbits and dogs are killed by doses of from fifteen to twenty-five centigrammes of the same extract introduced into the stomach.—*British Med. Journal.*

CONTINUOUS DILATATION IN STRICTURE.—Sir Henry Thompson is not an advocate for continuous dilatation in simple cases of stricture, believing that better and safer results are obtained by withdrawing the catheter or the bougie immediately after it has entered the bladder (as Luxmoore recommended) than by leaving it in the urethra from a few minutes to half an hour, as practised by some surgeons.—*Dublin Quart. Journal.*

CHLORODYNE.—In regard to the composition of this popular medicine, the most decisive communication is one from Mr. E. Smith, of Torquay, who made a careful qualitative and quantitative examination of Dr. Collis Browne's chlorodyne, and puts its composition as follows: ℞. Chlorof. ʒiv; morph. mur. gr. xx; æth. rect. ʒij; ol. menth. pip. M. viij; ac. hydrocy. dil. ʒiv; tinct. capsici, ʒvj; mucil. acac. ℥j; theriacæ ad ℥iv. M.—*Pharm. Journ.*

EYE-SALVE IN "GRANULAR LIDS," AND CASES OF CHRONIC OPHTHALMIA.—Dr. John Williams (*Dublin Quart. Journal*), after long experience, speaks most confidently of the following ointment: ℞. Arsenicæ Sulphureti, gr. ij; Unguenti Citrini, ʒij; Axungiæ Preparat. ʒvj. M. Bene.

The upper eyelids should be everted in cases of "granular lids," and about the size of a hemp-seed of this ointment should be applied with a camel's-hair pencil, which must be introduced into the superior palpebral sinus, to the diseased conjunctiva. In suggesting this local remedy he is not unmindful of general treatment.

CARBONATE OF AMMONIA IN PNEUMONITIS.—A. Patton, M.D., of Vincennes, Indiana (*Am. Journal Med. Sciences*), has treated successfully, during the last five years, 96 cases of pneumonitis, upon the exclusive use of carb. of ammonia, using no other medicine excepting that in the congestive stage he has sometimes given 60 drops of chloroform to aid reaction.

If the remedy be given early in the disease, and regularly, in from 5 to 10 grain doses, every two hours, night and day, it will, he says, in almost every case, so limit the exudation process as not only to greatly lessen the amount of hepatization, but to insure a prompt and rapid absorption of the exudation, and occasionally it will entirely prevent hepatization, and terminate the inflammation by resolution.

He also alludes to 213 cases treated in this manner by reliable practitioners in Indiana and Illinois, making altogether 309 cases, all severe and well-marked cases of pneumonitis. In these 309 cases reported there were 8 deaths, or one in 38 cases.

TREATMENT OF TWENTY-ONE CASES OF INFANTILE CAPILLARY BRONCHITIS.—During the winter of 1869–70, Alexandria, Virginia, was visited by an epidemic catarrhal affection, chiefly confined to children, which generally assumed the form of capillary bronchitis. Of the latter, 21 cases came under the care of Dr. Bedford Brown, of Alexandria, Va. (*Am. Journal Med. Sciences*). One of the leading objects was to remove mechanical obstruction from mucous exudation in the air tubes. To accomplish this, emetics of ipecacuanha were used in every case but one. When used freely in the primary or dry stage, the effect in a great measure was to prevent the occurrence of the subcrepitant râle. The sulphate of quinia, in combination with the ipecac, was used in about two-thirds of the cases treated. The febrile action yielded more readily with the quinia than without it. Twenty of his cases recovered.

SYPHILITIC RUPIA.—Syphilitic rupia, accompanied by albuminuria, occurs occasionally, and ultimately carries off the patient. A case of this kind has just occurred in the London Metropolitan Free Hospital, under the care of Dr. Drysdale. Fortunately such cases are rare.

LEPROSY.—This strange malady is stated to be on the increase in the Windward Islands, the "out-islands" of the Bahamas, Guiana, Jamaica, Demerara, Mitylene, Ceylon, Singapore, Penang, Molucca, Mauritius, and the Bombay Presidency; to be decreasing in Sweden, Iceland, Italy, Trinidad, Smyrna; and stationary in Norway, New Brunswick, Barbadoes, Tobago, Scio, and the Madras Presidency.

ELEPHANTIASIS.—According to Mr. Tovey, the Jews of Morocco are thought to preserve themselves from elephantiasis by the use of brandy distilled from raisins, pears, figs, and dates.

THE OPERATION OF NEPHROTOMY AND RENAL LITHOTOMY.—But one case only of nephrotomy, as a means of treating renal calculus, had ever occurred before Mr. Simon's operation of renal lithotomy, at Heidelberg, this year; that was a successful case on the person of the British Consul, at Venice, by an Italian surgeon, in the seventeenth century. Hippocrates mentioned and recommended the operation of nephrotomy in certain cases attended by external swelling, but he has published no cases.

CHOREA.—Hydrate of chloral is highly extolled, in cases of chorea, by a prominent Western practitioner and others. Whether it is permanently beneficial or not, it acts like magic in quieting the unruly muscles, and in allaying the alarm of friends.

TINEA DECALVANS.—Charles R. Drysdale, M.D., of London (*Journal Cutaneous Medicine*), says that we must not be too absolute in any bad prognosis in cases of *tinea decalvans*. Patient application of blisters during a year, and even more, will often be ultimately rewarded by cure of this unsightly disease in young persons, and especially in children. In three such cases lately sent to him for inspection by Mr. Milton, a lengthened treatment by blisters had produced a thick growth of hair, where formerly there had been nothing but wool, or perfect baldness.

CAUSTIC POTASH IN OBSTINATE ECZEMA.—Dr. Chas. R. Drysdale, of London (*Jour. Cutan. Med.*), places great reliance in a strong solution of caustic potash, in many cases of obstinate eczema of the ears and lower extremities—one of caustic potash to two of water. It is a painful application, but the pain ceases on the application of wet sago to the part.

A DISGUISER OF QUININE.—Dr. H. S. Pendon, of Belfast, believes—to disguise the taste—the best plan is to administer quinine in strong hot chocolate.

CARBOLIC ACID AS A DISINFECTANT.—Dr. A. Reeves Jackson, Chicago, Ill. (*Chicago Med. Journal*), finds that many of his patients cannot abide the use of carbolic acid in the sick-room as a disinfectant, for the reason that its odor is vastly more unpleasant and unendurable than most of those which it is used to mask and neutralize.

EFFECT OF BILE ON GASTRIC JUICE.—Dr. R. Burckart has communications on this subject in the *Archiv f. Physiol.* He mixed gastric juice with diluted bile, when the clear fluid became milky, and no longer acted as a solvent on pieces of coagulated albumen. The precipitate was collected on a filter, and washed with strong alcohol. The residue dissolved almost wholly in dilute hydrochloric acid, and had a solvent action on the albumen. The explanation of the effect produced by bile is, that in contact with the acid gastric juice, the biliary acids, and especially the glycocholic, are precipitated, and mechanically carry down with them the pepsine.—*Med. Press and Circular.*

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THE ETHICS OF CONSULTATIONS.

THE danger of interference between physicians while rendering professional services is so great that the most stringent rules are laid down to prevent it. But that these are none too strict every medical man who is brought much in contact with his professional brethren can attest. Particularly is this the fact with regard to the relations towards each other which should be maintained in consultations. Either the ethics of the profession are not sufficiently explicit upon this subject, or the greater number wilfully violate its provisions, for certain it is that there is need in many quarters for a rigid enforcement of discipline.

Consultations are held at the instance of the patient or his friends, or at the suggestion of the regular medical attendant, or both. In either event the position of the consulting physician or surgeon is obviously a delicate one. Whether or not he is really better informed than the gentleman in charge of the case, the very fact of his being called at all removes, generally speaking, all doubts, at least in the mind of the patient, of his eminent fitness to give counsel and aid. The more critical the case the more eagerly do the friends of the patient coax themselves into the belief of his superior qualifications. The attending physician, even if he knows that such a belief is without feundation, so far tacitly agrees with the convictions of the patient that he does not, as a matter of courtesy, strive to overthrow them. The consulting gentleman is thus admitted to the case with a hearty endorsement of all who are most concerned in the proper management of the case, and may, if he is not exceedingly careful in what he says or does, damage very much the estimation in which the family physician is deservedly held. The real purpose of extra advice in difficult cases is to aid the sufferer directly and the attending physician indirectly, the party consulted being only instrumental to that end. If this fact were thoroughly understood and appreciated much bad feeling among different members of the profession would be prevented.

From the peculiar nature of the services which the consulting party is called upon to render, it most generally follows that against them particularly the charges of interference and unjust dealing are made. These charges are founded upon acts which are either intentional or unintentional; both of which, however, work with equally disastrous results against the attending physician. It is a matter for congratulation that the number of those who wilfully violate the trusts imposed upon them is small; but, on the other hand, the unintentional sinners are very many. Of the former, then, we need not particularly speak; they are past reformation, and should be let alone to the full fruition of their dishonest, unmanly, and wicked practices. But to the latter class there is much to be said that may, in the interest of justice and right, be productive of good.

One of the main causes of interference on the part of this special class is a want of caution in their actions before the patient, based upon a false appreciation of their rights. They seem to forget that the absolute rights of a consulting party are far from being many. In fact, they are so few that it seems strange that they should not be known. As before remarked, the real office of the consulting medical man may be summed up under two heads: 1st, advice to the attendant calculated for the greatest good to the patient, directly, and the cause of science, indirectly; and 2d, a policy which shall tend to strengthen the confidence of the said patient or his friends in his medical adviser. Beyond this, under ordinary circumstances, he cannot go without endangering the good standing of the other practitioner.

In order to fulfil his obligation properly, the only necessary communication with the patient should be during the consultation, and always in the presence of the regular adviser. This is the general rule to which there is perhaps but one exception, and that is when the party calling the consultation fails from one cause or another to meet his engagement. Then, after waiting a reasonable time, the consulting gentleman can examine the patient alone, but he should under all such circumstances give his opinion in writing only, and under seal. Those gentlemen who do the largest consultation business in our cities make it a rule that is almost absolute, never to communicate directly with the patients or friends at the conclusion of the consultation, except it be necessary to endorse the physician in attendance. There is really no necessity for doing anything further. Every explanation that it is requisite to make is left to the regular adviser, and if the patients have the confidence in him which they should, they cannot doubt but that he will candidly state to them any new facts of importance which the consultation may have developed. On the other hand, if a consulting party thoughtlessly places himself in a position to be plied with questions he is very sure, contrary to his best intentions, on some

point of trivial importance to be diametrically opposed to the party with whom he has been consulting. Any one must be more than ordinarily acute, who, giving positive answers to such interrogatories, will not differ with another on some point. This being the case, it is obvious that the attendant is the most proper person to reconcile the trivial differences of opinion.

Some gentlemen, in the absence of any agreement with the physician or patient to the contrary, are quite unwilling to understand that their services should cease with the first visit—that after that, unless called again, all responsibility with the case ceases. We have known of some gentlemen who have so far forgotten common courtesy to the attendant that they have not only continued to attend upon the case, but virtually taken such charge of it as to suggest on their own account the proper times of meeting. Such a course is not allowable even if the patient's friends make a request to that effect, unless the physician fully agrees to the measure. If he cannot recognize the necessity he seriously compromises his respect by remaining in attendance any longer. But there are cases in which such a necessity may clearly exist, and which every right-minded person will not fail to appreciate; they are, in a word, such as require special surgical treatment, in the shape of operation, etc. The consulting surgeon under such circumstances becomes the principal, inasmuch as he gives an entirely new direction to the case, and is responsible for the immediate effects of any particular operation. He is supposed to know best when the patient should be seen, and it is properly his duty and privilege to make his suggestions accordingly. But when all the immediate danger is past, it is equally his duty to retire at once.

Again, there is sometimes a very free interpretation of the clause in the Code of Ethics, regarding attendance upon such patients as have been previously under the care of another practitioner. Generally speaking, it is sufficient for the patient to state that he has concluded to change his physician, to make it warrantable for another medical man to give his services. This is a rule which has long ago been sanctioned by custom, and cannot be altered. The patient has a right to change his physician if he so pleases, and having notified him to that effect (after having, of course, paid the bill), is under no more obligations to him. Any physician who would refuse to accept such a case would manifest a species of transcendental fastidiousness that could hardly be appreciated by the most upright member of the Medico-Historical Society. It is another thing, however, when a gentleman is called after having, during the same illness, attended the case in consultation. Under such circumstances he is bound, in honor, invariably to decline having anything to do further with the case. As it is to be presumed that through the practitioner he became known to the family, that the said practitioner perhaps gave him his reputation, he must not in any manner supplant him. If this did not actually occur sometimes, there would hardly appear an excuse for referring to the circumstance as a possibility.

In regard to consultations with specialists, the same rule holds good; but it is so rarely, even unintentionally, violated, that we only allude to it in such a connection in passing. There does not generally seem to be any necessity for wrong-doing on the side of the specialist, as such cases as require treatment at his hands are readily and generously delivered up to him.

Viewing the subject as a whole, there would seem to be no reasonable excuse for misunderstandings as to what is just in the premises. The Code of Ethics is very explicit in its interpretation of the rights of each, and if that is not at hand, every one can easily and safely apply the Golden Rule in its stead. If always actuated by its teachings, there would never be room for misunderstandings in our professional intercourse. In view of the great importance of frequent consultations, this is an end for which we should hopefully and patiently pray.

Reviews and Notices of Books.

A Handbook of Medical Microscopy, by Joseph G. Richardson, M.D., Microscopist to the Pennsylvania Hospital, Secretary of the Biological and Microscopical Section of the Academy of Natural Sciences, one of the Assistant Physicians to the Episcopal Hospital, etc., etc. Philadelphia: J. B. Lippincott & Co. 1871. 12 mo., pp. 333.

Every practitioner appreciates the fact that it is impossible for him to treat disease intelligently without the aid of microscopy. This science has assumed an importance in its relations to medicine and surgery that is second to none other; and by its many important discoveries forces the conviction upon every progressive practitioner that its study is a necessity. It is not to be assumed that the busy practitioner can find the time to become an accomplished microscopist, but it is his duty to be familiar enough with the use of the microscope, to enable him to help himself in the ordinary and necessary examinations of the diseased conditions for which his advice and treatment may be sought. We believe that we are warranted in asserting that the reason why microscopy in its ordinary practical application has not received that attention which it otherwise deserves, is not so much due to a lack of a disposition to master its principles as to the want of the proper treatises upon the subject. Although many excellent works have been published, they have either been too elaborate on the one hand or too abstruse and technical on the other. The student and practitioner has needed a happy medium in the shape of a trustworthy guide, and such a one our author has endeavored to supply. Generally speaking, the directions given to the tyro are not sufficiently explicit and intelligible, the possession of knowledge is taken too much for granted, and the consequence is that the really necessary details of microscopical manipulation, because they are so simple, are left entirely unnoticed. Many a student with a laudable spirit has commenced his studies with these guides, and been discouraged to find in the very first chapter some insurmountable techni-

calities, and has in consequence given up the attempt to proceed farther. We believe that the work before us is calculated to reduce these difficulties to a minimum, and may so far be considered a useful and practical manual. There are, in fact, many necessary details given by the author which we have for the first time seen in a systematic work.

Most of the foreign works on the use of the microscope, although perhaps adapted to the purpose of those students for whom they are written, are not such as Americans specially need. This is particularly the case in regard to the kind of microscopes to be employed, all of them being of foreign manufacture and generally inaccessible to the student of limited pecuniary resources. The instruments of American manufacture are in reality as good and as serviceable as those furnished by English, French, or German makers; and with the advantage of being obtained with but little trouble and comparatively small outlay, are in the main to be preferred for ordinary use with us. Of course we do not mean to affirm that the transatlantic opticians do not excel us in the higher powers, but the possession of such lenses is not necesssary to the prosecution of the microscopical investigations of the practitioner. A lens that will magnify two hundred and fifty diameters is as high a power, if skilfully and intelligently used, as is needed for all ordinary and practical purposes. Dr. Richardson, in his introductory chapter, gives all the necessary information in regard to the American instruments, of low and high priced manufacture, pointing out, in an intelligent and trustworthy manner, the excellences of each. His remarks on the use of the instrument and its accessory apparatus, and his definitions of the technicalities of the science, leave very little if any extra information to be desired. We should, however, be glad to say in this connection, that his description of the method of focusing objects on page 46 is equally practical. The division of the stage, in accordance with the points of the compass, and his allusion to the "upper left hand angle" of the cover as being the first object to look for, etc., is in our opinion unnecessary, as leading to confuse rather than guide the learner. This leads us to speak of the great partiality of the author for long sentences. In his efforts to be concise he will not unfrequently, as in the instance just referred to, introduce parentheses, and make interpolations until a sentence fills an entire page. We contend that the attempts to handle such sentences successfully, are always made with the sacrifice of perspicuity, and they should be especially eschewed by a scientific writer. Our author, in consequence of his parenthetical style, renders himself in many instances liable to be misunderstood; this is the more to be regretted, as in other respects he is as eminently qualified to teach every department of his specialty. But the occasional ambiguity of his expressions is the only fault of his work, and we trust that in the next edition he will be more generous with his periods.

The intention of the writer is to make the work thoroughly practical, and this he has fulfilled. We are much pleased with his system of examinations, and with his methods of solving, with the microscope, the various problems in diagnosis. The chapters on albuminuria and morbid growths are in that respect admirable; we think in these more than any other departments of his work he shows himself to be, not only a thorough microscopist, but a sound and reliable and ingenious diagnostician. With a full appreciation of the value of the instrument in clinical and pathological researches, he takes proper care to inculcate the fallacy of relying entirely upon its revelations. The other facts bearing upon the case come in always to modify the opinion and to complete the diagnosis. The student is led step by step through all his examinations, and there is hardly a necessary point of detail that is omitted. Particularly is this the case with the investigation of the different urinary deposits, which is of so much importance to every practitioner. To these chapters on urinary examination are added some original observations on albuminuria. The study of mucus, saliva, and pus, and the description of the processes by which the author concludes that the corpuscles of each are identical, is interesting, if not conclusive. We believe our author is entitled to the credit of being the first to demonstrate the origin of the salivary corpuscles, and their identity with the leucocytes. By so doing he has helped to corroborate the theory of Cohnheim, of Kiel, in regard to the origin of the pus corpuscle. But these subjects are of more interest to the advanced microscopist than to the tyro.

The necessity and importance of examining the sputa of patients in the early stages of phthisis, are quite conclusively proven in the results attained. We confess to no experience in this line, but are persuaded that the teachings of the author are sound and eminently trustworthy. He bases his diagnosis on phthisis in its earliest stage upon the appearance in the sputum of lung substance, principally fragments of yellow elastic tissue. These latter have generally the mould of portions of the air vesicles. He very ingeniously concludes that the fibres of the air vesicles, being elastic, must break like a thread of india-rubber, with a squarely transverse fracture. The appearance of such fibres he believes to be almost pathognomonic of early phthisis. It is unnecessary here to state that the author describes the processes by which the specimens are made, and gives the very necessary advice to examine healthy lung tissue first.

The examinations of vomited matters, anal, vaginal and uterine discharges, of parasites, and the medico-legal investigation of blood stains and spermatic fluid, are all very practically and clinically considered, proving to the reader that the author is perfectly at home on all.

The concluding chapter, on hints concerning the examination of morbid growths, is the best in the whole work. It points out so intelligently the different recognized forms of tumors, their clinical and characteristic microscopical appearances, and is such a complete résumé of what is at present known concerning tumors in general, that no one who is not an expert can fail to profit by its study. As a whole, we have not seen a work of its sort that in completeness and practical utility can rival it or even compare with it. We predict for it a great and deserved popularity.

The figures, of which there are quite a number, are Camera Lucida drawings by the author.

The following errata should have been inserted:—Page 29, last line, for "achromatic" read "non-achromatic;" page 65, line 26, for "&" read "or;" page 66, line 3, before the phrase "the iodosulphate of quinine," insert the words "two crystals of," from p. 65, line 34, and after it introduce the parenthesis commencing upon line 35 of the same folio; page 197, line 23, for "germination" read "generation;" page 211, line 7, for "muslin" read "linen."

TRANSACTIONS OF THE INDIANAPOLIS STATE MEDICAL SOCIETY, 1870. Pp. 163, Indianapolis.

THE "Transactions" open with an interesting address by the late President, George Sutton, M.D., of Aurora, Ind., on "Man's Power over Nature, and Medicines as means by which he Aids and Controls the Laws of

Life." He remarks truthfully that disease is the natural enemy of man, producing suffering and tending to his destruction. From the Carlisle table of mortality, we know that out of every 100,000 that are born, 14,631 die within the first year, 25,790 of that number within five years,—disease carrying off nearly the whole of this number, pulmonary diseases and diseases of the nervous system and digestive organs being the most prominent. If nature unaided was capable of removing disease, why this terrible mortality?

The remainder of the address is taken up in showing that man, formed in the resemblance to Deity, is a lord over the operations of nature; that man, from the powers delegated to him, is capable of controlling, to a limited extent, the laws of discord around him, as seen in his control over the intellectual, the moral, the physical, and vital laws; that nature prompts him to the development of knowledge, which gives rise to arts and science; that she furnishes him means by which he may guide and control her laws, and that medical science is developing, and is yet destined to be the most grand and noble upon the globe.

Prof. George W. Mears, M.D., of Indianapolis, follows with an instructive Essay on the "Treatment of Puerperal Hemorrhage," which has enlisted from the earliest dawn of obstetric science the ablest minds in the investigation of its cause, diagnosis, and treatment.

Although the author states that we are left to-day with a meagre line of therapeutic agency, we cannot but suggest that the medical profession of the Eastern and Western Hemispheres are constantly instructed by the teachings of such men as Profs. Barker, Thomas, Elliot, Peaslee, Taylor, and others in our own city, and by our English co-laborers, like Barnes, of London. Much, however, is yet to be done in pointing out the best mode for promptly arresting "flooding from abortion," "concealed accidental hemorrhage," "unavoidable hemorrhage," and "post-partum hemorrhage," and this paper—with the appended discussion—is a timely one. In discussing *post-partum hemorrhage* Prof. Mears adds that the most successful application into the body of the uterus is a lump of alum rubbed over the surface from which the placenta has been detached.

The ten elaborate papers which fill up the remainder of the beautifully printed volume, are creditable to the progressiveness of our Indiana friends.

This Society has 488 permanent members and 27 honorary members. The present officers are as follows:—

President, R. N. Todd, M.D., Indianapolis; *Vice-President*, I. N. Rosenthal, M.D., Fort Wayne; *Secretary*, G. V. Woolen, M.D., Indianapolis; *Assistant Secretary*, W. J. Elstun, M.D., Indianapolis; *Treasurer*, J. H. Woodburn, M.D., Indianapolis; *Librarian*, A. W. Davis, M.D., Indianapolis.

THE NUMBER OF STRICTURES IN ONE URETHRA.—Sir Henry Thompson tells us that John Hunter records an instance in which he met with *six* strictures in one urethra. Lallemand mentions one with *seven;* Colot saw one with *eight;* Descamp says there are rarely more than two, but that he has seen *four* or *five;* Boyer thought three could exist together. A case is reported by Leroy D'Etiolles, in which he found *eleven;* but since this is sometimes quoted as if it were a *post-mortem* observation, it is necessary to state that this number rests only on the evidence afforded by the passage of an exploratory bougie. Rokitansky speaks of *four.*

This distinguished author assigns the first place, in relation of frequency of occurrence, to the stricture which occurs at the posterior part of the urethra.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY

STATED MEETING, OCT. 26, 1870.

DR. J. C. HUTCHISON, PRESIDENT, in the Chair.

CONCEALED UTERINE HEMORRHAGE.

DR. FINNELL exhibited on behalf of Dr. Wooster Beach the uterus of a woman eight months pregnant, who died of concealed hemorrhage. She had been seized during the night with pains simulating those of false labor, for which an anodyne was administered by her physician. Six hours later the pains becoming very severe, the attendant was again called and found her flooding violently. Death occurred fifteen minutes afterwards. The case became one for the investigation of the coroner, in consequence of a charge of neglect against the physician. At the autopsy the uterus was found to contain an eight months' fœtus; the membranes were not ruptured and were intact, but the placenta was entirely detached, its uterine surface laying in a large blood-clot. The point of placental attachment had been on the left side of the fundus. No cause for the accident had been assigned. The placenta was not preserved. The uterus was at some points scarcely more than two or three lines in thickness.

DR. SHRADY, in view of the possibility of diseased placenta being the cause of the premature separation, asked if the organ had been examined microscopically.

DR. FINNELL answered in the negative, and regretted that the organ had not been preserved for that purpose. In regard to the management of such a case, he believed it would have been best to have ruptured the membranes and delivered the child at once.

DR. SAYRE was of the opinion that large doses of ergot would have been serviceable in inducing rapid contraction of the uterus.

DR. WHITE, by invitation of the President, remarked that the physician could hardly be blamed for his management of such a case, as there were no well-defined symptoms of uterine hemorrhage save those which belonged to alarming syncope. The pains were very apt to simulate those of false labor. He did not think it would be advisable to make a rapid delivery, and empty the uterus suddenly, before uterine contraction was induced, either by a firm bandage and pressure, or by ergot.

DR. EAGER thought it was quite evident that the patient was moribund when the physician arrived, and that no time was allowed for any manipulations.

On motion the uterus was referred to the committee on microscopy.

PERFORATION OF ILEUM—STRANGULATED HERNIA.

DR. MASON presented a perforated portion of the ileum of a woman fifty years of age. She had been seized with the symptoms of strangulated hernia, and after considerable effort succeeded, as she thought, in reducing the gut. There was no great pain complained of, but suffering from soreness of the abdomen she took in the course of the next twenty-four hours a large enema. A few hours after she sank and died of exhaustion. On opening the abdominal cavity the peritonæum was found to contain the contents of the intestine. The perforation from which they took place was caused by the separation in the strangulated portion of a small slough at the juncture of the mesentery. The accident was the result of the injection.

VESICAL CALCULI.

Dr. Henschell presented two oblong phosphatic calculi discharged respectively at different times, per urethram, from a female. The patient first consulted him in consequence of what she supposed to be uterine disease, but the general symptoms being those of urinary calculi, the bladder was examined. The diagnosis was made and treatment by alkalies commenced. The point of interest centred in the absence of the metallic click, which the exhibiter explained on the supposition that a diverticulum existed.

OSSIFICATION OF CHOROID.

Dr. H. Knapp reported that the microscopic examination of the two eye-balls, which he had presented at the last meeting, fully confirmed his views on the origin and extent of ossification in the eye.

He then demonstrated another eye-ball which he had removed three weeks previously for chronic iridochoroiditis, having caused sympathetic inflammation in the other eye. The abrupt termination, in the region of the ora serrata, of the hardened posterior portion of the globe was distinctly felt before the eye was removed. Upon this symptom was based the diagnosis of "ossification of the choroid," starting from, and limited to, the chorio-capillaris, probably with a transverse septum behind the lens. The anatomical examination of the globe confirmed this diagnosis fully, and showed plastic inflammation of the ciliary body and iris, to account for the production of the sympathetic affection in the other eye.

CANCEROUS DISEASE OF MESENTERY.

Dr. Thomson presented an abdominal tumor removed post-mortem from a young man, aged twenty-five, to whom he had been called to decide as to whether operative procedures were advisable. There was considerable tympanitis, but by gentle manipulation, a tumor about the size of an orange was detected just to the left of the umbilicus, deep-seated and attached at its base to the spinal column. It seemed to be continuous, on percussion, with the line of the spleen posteriorly. The patient had complained of constant pain in the back for over eighteen months, and at times, especially in the latter part of the day, it became so severe that it caused emesis. There had been no trouble about gastric or intestinal digestion, neither was there emaciation. Besides his pain in the back he had also severe pain in the head of the penis, and would feel at times as if the organ were literally packed in ice. Occasionally the flow of urine would be arrested in consequence of this pain. Again much pain was complained of in the left groin, in both hips, in the balls of the feet, in the breast, and between the shoulders. The diagnosis of cancerous tumor was made, involving probably the left kidney. Some two weeks afterwards the patient rather suddenly commenced to sink and died, exclaiming in his agony, "Oh, my poor shoulder!"

At the autopsy the abdomen only was opened. The peritonæum was healthy in every part, but its cavity was filled with blood. The tumor, rounded in shape, was discovered firmly attached to the left sides of the last two dorsal and first lumbar vertebræ, involving the region of the psoas muscle and extending down into the pelvis. On the opposite side of the spine was a chain of enlarged ganglia filled with softened material. On microscopic examination these ganglia as well as the tumor, which was in reality nothing more than an enlarged lymphatic gland, were found made up of collections of large and irregularly shaped cells. The source of the hemorrhage was not discovered. The point of interest was the wide radiation of the pain.

ANEURISM WITHOUT DILATATION—RUPTURE, ETC.

Dr. Janeway presented, on behalf of Dr. McCann, the heart and annexa removed from a man aged forty-five, who dropped dead while eating his dinner. The pericardium was found filled with blood which had escaped through a small rupture half an inch in length, situated on the right and posterior surface of the aorta, just as it passes beneath the pericardium. Around the rent were evidences of chronic endo-arteritis. There was no dilatation of the artery in this case, this being the third or fourth specimen of the kind that Dr. Janeway had seen.

Dr. Thomson in this connection referred to a man who had died in coitu. There was a rupture of the aorta involving the left coronary artery. In that case there was no aneurismal dilatation whatever.

Dr. Buck exhibited a specimen of aneurism which illustrated the effects of treatment by the passage through its cavity of a fine silk thread. By the special request of the exhibiter the details of the operation, appearances of the specimen, etc., are for the present not entered upon the minutes.

Dr. Jacobi lastly exhibited, on behalf of Dr. Wooster Beach, a heart, the seat of what were believed to be numerous cancerous tumors in the substance of the ventricles. By request it was referred to the Committee on Microscopy.

The Society then adjourned.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Adjourned Anniversary Meeting, Nov. 7, 1870.

Dr. John R. Van Kleek, in the Chair.

After the reading and approval of the minutes, the President *pro tem.* read the following farewell letter and synopsis of the business of the Society for the past year from the President, Dr. George T. Elliot:—

Gentlemen:—At the close of my second term of office the time has arrived for me to say farewell, and to return my thanks for the kindness and sympathy you have shown me during my illness, as well as for many other tokens of good feeling during my administration.

It is pleasant to know that the position of the Society has been strengthened, its numbers increased, and the benefits of its labors laid regularly before the profession through the admirable stenographic reports of Dr. Winslow. Such reports are often invaluable, securing for the many the benefits of the unpremeditated utterances of men of experience, who lack the leisure or inclination to write or publish for themselves.

I do not see in what way the working plan of the Society can be greatly improved. Its founders have left little to be done in that respect by their successors; and especially have they provided against an infinite waste of time and temper by the admirable custom of referring all business matters to the Comitia Minora.

The custom which I introduced, and have carried through the past year, of regularly holding an adjourned meeting, in addition to the monthly meeting, seems to me deserving of being maintained, while it is not probable that time could be found for more, in deference to the claims of other societies. I have had no difficulty in arranging for papers for the meetings; and I am happy to express my conviction that a steadily increasing interest is being felt in the city both for papers on scientific and practical subjects, and for the debates to which they give rise.

Therefore, with every prospect brightening for the

increasing activity and usefulness of the Society, and with the sincere hope that it may not only increase its reputation, but may stimulate its fellow societies throughout the land, there only remains to wish you all individually happiness and success, and to submit the following report of the past year's work:—

November Meeting.

Address by the President.

Announcement of Committees.

Paper by Dr. Jacobi, on "The Theory and Demonstrations of the New Hypnotic, Chloral."

December Meeting.

Paper by Dr. Hammond, on "The Physiological Effects and Therapeutical Uses of the Hydrate of Chloral."

Paper by the Vice-President, Dr. Thomas, on "The Induction of Premature Delivery as a Prophylactic Resource in Midwifery."

Adjourned December Meeting.

Paper by Dr. John C. Peters, on "Arterial Sedatives."

January Meeting.

Paper by Dr. Clymer, on "Some Points in the Clinical History and Pathogeny of Locomotor Ataxia."

Adjourned January Meeting.

Paper by Dr. William A. Hammond, on "Spinal Irritation."

February Meeting.

Paper by Dr. C. R. Agnew, on "Ophthalmic Therapeutics."

Adjourned February Meeting.

Paper by Dr. Foster Swift, on "The Pathology of Eczema."

March Meeting.

Paper by Dr. Austin Flint, on "The Prognosis in Chronic Diseases of the Heart."

Adjourned March Meeting.

Paper by Dr. William R. Whitehead, on "Reproduction of Bone."

April Meeting.

Remarks by Dr. Austin Flint, Jr., on "The Physiological Effects of Muscular Exercise."

Adjourned April Meeting.

Paper by Dr. J. C. Nott, on "Intra-uterine Medication."

May Meeting.

Paper by Dr. W. T. Tusk, on "The Theory of Diabetes."

Adjourned May Meeting.

Second paper by Dr. J. C. Nott, on "Intra-uterine Medication."

June Meeting.

Paper by Dr. William B. Neftel, on "The Action of the Galvanic Current upon the Sympathetic Nerve."

September Meeting.

Specimen of Diverticulum of the Intestinal Canal, presented by Dr. Finnell, with remarks.

Maps of the Course of the Different Epidemics of Cholera, presented by Dr. J. C. Peters.

Nomination of Officers.

Adjourned September Meeting.

Paper by Dr. Austin Flint, Jr., on "The Influence of Long-continued Muscular Exercise on the Composition of the Urine."

Number of new members admitted during the year, 33.

Average number present at each meeting, 80.

With the reading and approval of the minutes of this adjourned meeting, the Anniversary Meeting was concluded; and Dr. Van Kleek resigned the chair to Dr. Jacobi, whom he introduced as the President elect, the session now becoming the regular

STATED MEETING, NOVEMBER 7, 1870.

DR. ABRAM JACOBI, PRESIDENT, in the Chair.

THE PRESIDENT proceeded at once to read an elaborate and exhaustive paper upon *Craniotabes*, illustrated by specimens and drawings. Any just abstract within our limits would be simply impossible, but the paper will immediately appear in full in the November number of the *Journal of Obstetrics*. After completing his review of this subject, he remarked as follows:—

ADDRESS OF THE PRESIDENT ELECT.

In the foregoing, gentlemen, I have not confined myself to simply a few introductory remarks. If I were more eloquent, I should have tried to thank you in more appropriate terms than I shall probably be able to command, for the honor you have conferred upon me in electing me your President for the ensuing year. As it is, I have considered it my duty to contribute something to the scientific ends of the Society, the more so as there are only eight or nine stated meetings during the year designated for that purpose, and for the further reason that you have deemed proper to effectually seal my lips for the next twelve months.

Still it would be improper not to express the thanks I feel for the honor you have given, and which I certainly had no reason to expect, inasmuch as I *have* had the pleasure of being chosen your Vice-President a few years ago.

I will not speak of the customary surprise at my election, nor will I say that it was undesired or unhoped for. The honor of being the President of the largest medical society in the United States—this society being, moreover, the County Medical Society—is certainly worth craving and hoping for; and therefore I trust that you will appreciate my thanks, as I your good will.

There is only one duty left to me this evening—just to give you my ideas on the position this Society ought to hold, and its duties in relation to science, to its individual members, to the public, and to the body politic. Do not fear I shall be too prolix on these points. But I think the Society justified in wanting to know the views of its officers on the most important matters.

The stated meetings of this Society are principally dedicated to the reading of scientific papers and to their discussion. I believe that, as long as I have been acquainted with the working of the Society, its efforts compare favorably with the merits of other societies. Some of the papers I remember to have listened to were far above the average, and replete with new ideas and fertile suggestions. But we suffer from one circumstance, which has crippled our progress, and detracted from the scientific value of our exertions. We have good physicians and surgeons, we even have eminent men in many branches of the exact sciences. But we have, with very few exceptions, no profession

of learning, no men who can afford to give their whole time to study, to independent work. The great names of medical science are all European. And Europe would be very willing indeed to receive us amongst the best of her own. The Nott and Gliddon, the Morton, Silliman, Wormley, Flint, the Elliot and Thomas, the Gross, Peaslee, and others, are so well appreciated on the other side of the Atlantic that America, while proud of what has been attained under the most difficult circumstances, ought to look for means to improve her scientific standing and usefulness.

It has long been a petted idea of mine, that the County Medical Society will, one day, help in solving the question how science can be delivered from the weight of daily mechanical toil, which so impedes the freedom of thinking and working; that it will aid in creating institutions that shall be worthy of the country we live in, and afford the means to such as by nature are destined to become the teachers of their fellows, to follow the inspirations of their genius without the spectre of necessity driving them into the hardship of daily mechanical work. Such men as Europe possesses by the score are absolute requisites for us. It is true that electricity and steam have made the world one country, and that no secrets are known in the republic of science that are not common good. But the life of civilization is reciprocity; it will not do always to take without giving. We have the greatest territory, the longest railways, the largest steamboats, the most extensive telegraphs, the boldest bridges and buildings, and the smallest original scientific literature. The wants are clear. Let us all do our share in elevating our science, ourselves, and each other.

I believe that a large number of our members will agree with me in one point concerning the composition of this Society. Not everybody can be a great genius; there are but few such; average intellect is what most of us have to be satisfied with, and beyond the gifts of nature we cannot possibly go, neither we nor the members of any other profession or society. But there is one thing which can always be of the highest order, because it but partially depends on intellect and education. It is wisdom and morals. While we have to be satisfied with the mental powers we can command amongst us, we must command the morals, not of the average, but of the best. I speak in my own name, and in that of my colleagues, when I ask you to help us in gaining the co-operation of the best men that can be found, and in keeping out or driving off such as ought not to belong to us. We ought not to believe that any profession ennobles a man who is not worthy to enter. There is no trade, or profession, that can be protected from unworthy intruders. If there is any profession, however, which deserves not to be thwarted by them, it is ours.

If it must be our object to obtain the good-will and active co-operation of good men, I entreat you, gentlemen, to help your Board in enlisting those amongst our numbers, whom we see here but rarely, for active work. Some of the best men of the city, who are members of our Society, are absent more frequently than the interests of the Society will permit. To whom much is given, from those much is required. If the dignity, the solidarity, of the medical profession of the city and country is to become a fact, not one member ought to refuse to go on duty. There are always more men willing to listen and learn, than there are such as are able and willing to teach. I do not make this remark with regard to such of our members only as have gained a well-deserved reputation by life-long work, but also with special regard to those younger men, in whose brains the future of American science is getting prepared, who are given to studies of a special nature and to exact investigations.

Only those who do their full duty to themselves and their fellows will have a right or a chance to modify our relations to the public and also to the body politic. I do not speak of the individual relations of the physician to his patients—rules cannot be given in regard to these—but of his relations to them in matters of common interest, for instance, public institutions. We live under peculiar circumstances. Our political organization is such that our theory is frequently better than our practice. We have the best constitution on the globe, a constitution framed by wise men, and adapted to wise and prudent men, and at the same time a larger class of ignorant and illiterate fellow-citizens in the territory over the United States than any other civilized, even monarchical, country. We have the good republican rule of electing the best men to offices,—and they say it has happened that a bankrupt mechanic has turned the moral and mental leader of a large community, or an incompetent tradesman all at once a wise statesman, the savior of his country politically. The remedy will be found in a civil-service bill, the necessity for which is so generally felt that it is a Republican Senator and a Democratic Representative who have undertaken the task of securing it.

In our public relations, generally, we have to deal with similar difficulties. As a country we are young, upstart, and are suffering from all the incongruities of upstart communities. The great process of growth, helped by unbounded appetite and good digestion, is not yet finished. Society is by no means in a steady condition. As there are marble palaces and hovels in close proximity, so we have sudden wealth and young education—very young and unfinished education—under the same roof. Society is not always ruled by the best; it is usually controlled by the powerful and the ambitious. The greatest and most uncontrollable power is money; no matter whether it is made by brain-work, industry and saving, or by blockade running, shoddy, or stock-jobbing.

The public institutions, in which the medical profession take a lively interest, are controlled a great deal by money, family, clique, or political influence. They ought to be the subjects of the closest attention on the part of the profession as such. United efforts in that direction will prove efficient; for, certainly, in every board, no matter how composed, there ought to be some members willing to do the best. We ought not to despair of human nature to such an extent as to believe that there should not be some who would be glad to be guided by the judgment of experts rather than by their own inexperienced intuition. I have always thought that the County Medical Society, by studying the affairs, the statistics, resources, results, merits, and shortcomings of our public institutions, would work in just the proper sphere, and for the benefit of our fellows and of science. There is no medical community which has more talent, and not one which has more authority. It is our duty as well as right. The Medical Society of the County is, moreover, through the State Medical Society, intimately connected with the State and its politics. I know the time will come when the opinion and advice of the County Medical Societies and the State Medical Society will be asked for in regard to one most important matter—I allude to medical education. The material wealth and power of the country had its best help in decentralization; but private means and competitive efforts do not appear to be able to afford the millions, collect the genius and talent, and create the museums and institutions worthy of seats of learning, such as Europe boasts of by the dozen. It

the time will come for such progress, the task of advice and practical interference will be with the County Medical Societies.

I throw these hints out, believing in their being correct, requesting the gentlemen to keep them in view; and finally requesting you to believe that, whether they are wrong or right, I shall be but too willing to work with you for our common interests.

NEW MEMBERS.

The President announced the admission to membership of Drs. Henry Griswold, Charles P. Russell, John G. Frazer, and Gustavus Langmann.

He announced also the following standing committees for the year.

STANDING COMMITTEES.

Committee on Library. — Drs. Thomas S. Bahan (Chairman), Geo. M. Beard, R. J. O'Sullivan.

Committee on Intelligence. — Drs. B. S. Thompson (Chairman), Wm. T. White, Jerome C. Smith, Robert Newman, James B. Hunter, Benj. F. Dawson, Andrew H. Smith, Salvatore Caro, Norton Folsom, Chas. S. Wood, F. A. Castle.

Committee on Meteorology.—Drs. David H. Goodwillie (Chairman), John Messenger, Fred. E. Hutchinson, Edward C. Harwood.

Committee on Diseases.—Drs. Moreau Morris (Chairman), A. B. Judson, Horace T. Hanks, Leonard Weber, Henry G. Piffard, Edward Bradley, T. Munson Coan, Samuel A. Raborg.

Committee on Finance. — Drs. Wm. B. Bibbins (Chairman), Thos. Addis Emmet, Edwards Hall, Joseph Kammerer.

A communication preferring charges against a member was received and referred to the Comitia Minora.

BLEPHAROPLASTY.

Dr. Knapp presented a patient upon whom he had restored the lower eyelid, with substantially the following remarks:

This woman suffered from epithelial cancer of the left lower lid, which I removed about six months ago. The disease was nodular in character. It extended, laterally, from the punctum to the outer canthus, and downwards considerably below the tarsal cartilage, involving the whole thickness of the lid.

I made the incisions for the removal of the growth as you see in this diagram—two incisions passing vertically downwards from the punctum and from the outer canthus to the extent of eight or nine lines, and being joined at their extremities by a horizontal one. I kept at a distance of at least a line and a half from the globe at every point, so as to be sure to get all the germs, going through the whole thickness of the lid—skin, orbicular muscle, cartilage, and conjunctiva. This left exposed a square surface, the eyeball being laid bare and some little space below it.

To fill up this gap I resorted to a somewhat peculiar method, which I had before employed in several cases. The horizontal incision, from the point where it joined the outer vertical one, was extended outwards (and very slightly downwards) across the cheek for a distance of nearly two inches. From the outer canthus a similar incision (directed very slightly upwards) was carried to the same extent. On the inner side the horizontal incision was extended about to the middle line of the nose; and from the punctum, for a short distance inwards, a careful dissection was so made around the canaliculus as to allow this to be stretched, along with the flap containing it. Both flaps were very freely dissected up, and then stretched so as to bring their vertical ends together at the middle of the lid, where they were fastened by interrupted sutures. They united perfectly, so that you can now hardly discover the line of union. A mucous lining for the new lid was made of conjunctiva drawn from the inferior fold.

This method has the advantage that it gives a lid perfectly adapted to the globe. The slight traction of the flaps, as they shrink a little, is lateral, not downward, and brings them close to the eyeball. There is no ectropion, and no unsightly swelling out of the flaps, such as are so often sources of inconvenience and disfigurement after other operations. Celsus says that when the whole lid is destroyed it cannot be restored. This is certainly true for the upper lid; for that has a large cartilage and a special muscle of its own, without which it could not perform its office. But the lower lid is comparatively inert. If fitted nicely to the globe, it will fulfil its triple function—of protecting the eyeball, holding it in place so as to allow of the ball-and-socket motion, and retaining the tears—without a cartilage and without a particle of muscular fibre. (It is possible, however, to bring in orbicular fibres from the sides.) You see that here there is not the slightest lachrymation; yet there is no deficiency of tears on the lower part of the globe, although so large a part of the mucous membrane was taken away. The eye is properly lubricated, and follows all the movements of its fellow with perfect ease. And the lids can be as easily and completely closed as on the other side, though the whole cartilage is gone and nothing of the old lid remains beyond the punctum. In short, the new lid answers every functional demand; there is barely a trace of the pseudoplasm; and except for the absence of lashes, you would hardly notice any difference between the two eyes.

A more customary operation is that of transplanting a flap from the temple. So far as I have observed its results, both in my own cases and in those of others, there has invariably been swelling of the flap, and more or less disfigurement. Another operation is that of removing the morbid growth by a V-incision, and filling up the triangular space by *glissement*, that is, by dissecting up the flaps at its edges and bringing them together. This, as it affords no lateral support, almost always draws the lid downwards, producing ectropion, and of course an overflow of tears.

The method which I have here shown has its limits. The stretching of a flap is always a calamity, and can be practised without risk of failure only where the skin is very supple. The integument of the lower eyelid, however, and of the parts adjacent, is supple enough to bear stretching as much as I have done in this case. I do not know how much more it would bear.

Dr. L. Weber remarked upon the wonderful accuracy with which the lid fitted the eyeball, such as could only have been attained by the traction of the lateral flaps.

Dr. Sayre had never seen a result approaching this. He wished to inquire whether the stretching of the canaliculus might not tend to close it and obstruct the passage of tears.

Dr. Knapp replied that, even if the punctum and canaliculus of the lower lid were obliterated, those of the upper would probably prove sufficient to carry off all the tears. But in this case, although the lower punctum was drawn outwards a line, or a line and a half, it seemed to perform its office completely.

The President stated that at the meeting of December 5th a paper would be read by Dr. Fordyce Barker. The Society then adjourned.

ARMY AND NAVY NEWS.

List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from November 4th, 1870, to November 17th, 1870, inclusive.

WIRTZ, H. R., Surgeon.—By S. O. 25, Headquarters Department of Arizona, October 13th, 1870: to proceed to Drum Barracks, California, and await further orders from these Headquarters.

WEBSTER, WARREN, Surgeon.—By S. O. 218, Headquarters Department of the East, November 4th, 1870: to proceed without delay to Fort Warren, Mass., and relieve Assistant-Surgeon J. H. Kinsman from duty as Post-Surgeon.

HAPPERSETT, J. C. G., Assistant-Surgeon.—By S. O. 231, Headquarters Department of the East, November 16th, 1870: the leave of absence—granted Assistant-Surgeon Happersett, in S. O. 123, Headquarters, Fort Washington, Md.—is extended 20 days on Surgeon's Certificate of Disability.

WHITEHEAD, W. E., Assistant-Surgeon.—By S. O. 218, Headquarters Department of the East, November 4th, 1870: relieved from duty at Fort Columbus, N. Y. H., and to proceed at once to David's Island, N. Y. H., and report to the Commanding Officer of that Post for duty.

COUES, ELLIOTT, Assistant-Surgeon.—By S. O. 218, Headquarters Department of the East, November 4th, 1870: upon being relieved at Fort Macon, N. C., to proceed to Fort McHenry, Md., and report to the Commanding Officer and to the Post-Surgeon.

KINSMAN, J. H., Assistant-Surgeon.—By S. O. 218, Headquarters Department of the East, November 4th, 1870: upon being relieved as Post-Surgeon, by Surgeon Warren Webster, at Fort Warren, Mass., to proceed to comply with par. 2, S. O. 176, c. s., from these Headquarters.

KINSMAN, J. H., Assistant-Surgeon.—By S. O. 227, Headquarters Department of the East, November 12th, 1870: granted permission to delay, for twenty days, proceeding to Fort Johnson, N. C., when relieved by Surgeon Warren Webster.

CALDWELL, D. G., Assistant-Surgeon.—By S. O. 241, Headquarters Department of the South, November 5th, 1870: having reported at these Headquarters, in compliance with S. O. 111, Headquarters of the Army, A. G. O., c. s., to report without delay to the Commanding officer, Post of Chattanooga, Tenn., for duty as Post-Surgeon, relieving Acting Assistant-Surgeon J. H. Van Deman.

BENTLEY, EDWIN, Assistant-Surgeon.—By S. O. 171, Headquarters Department of California, November 2, 1870: granted leave of absence for 30 days, with permission to apply for an extension of 30 days.

BARTHOLF, J. H., Assistant-Surgeon.—By S. O. 244, paragraph 1, Headquarters Department of the South, November 9th, 1870: to proceed without delay to Lebanon, Ky., and report to the Commanding Officer of that Post for temporary duty as Post-Surgeon, relieving Acting Assistant-Surgeon W. H. Hopper, U. S. Army.

PRUSSIAN LOSSES.—Lieutenant Von Langenbeck, a son of the eminent surgeon of Berlin, has died of wounds received in battle on the 18th of August. The only son and the son-in-law of General Staff-Surgeon von Grimm were both killed before Metz on the 18th. The sons of Dr. Simon of Berlin, Dr. Stilling of Cassel, and of several other medical men, have been wounded: the son of Dr. Lauer, Physician in Ordinary to the King of Prussia, severely.

New Instruments.

DURHAM'S NEW FORM OF TRACHEAL CANULA.

NOTES BY CHRISTOPHER JOHNSTON, M.D.,
PROFESSOR OF SURGERY, UNIVERSITY OF MARYLAND, BALTIMORE.

IN the year 1869, April number of the *Practitioner*, is to be found a very able article by Arthur E. Durham, F.R.C.S., "On some of the Difficulties and Dangers of Tracheotomy, and the best means of obviating them." Among the dangers enumerated are those arising from the pressure and irritation of the canula, and which are claimed to be dependent, in great measure, upon faults and defects inherent in the tubes First, the curve of the ordinary English canula, of the French canula, and of Dr. Fuller's bivalve canula, is objectionable, because "most frequently the anterior wall of the trachea is found, in post-mortem examinations, to be ulcerated exactly at the spot upon which the extremity of the tube often impinges."

Secondly, "All these different forms of tracheal canula are open to the objection that they are rigid throughout."

"But the improved French canula, designed by M. Roger, is so contrived," continues Mr. Durham, "as to obviate, more or less effectually, this source of danger; and its principle is adopted in the construction of the canula which will presently be described.

"Thirdly, apart from their liability to cause ulceration, the canulas in ordinary use have various faults and deficiencies which may give rise to much trouble. Sometimes the tube is too long, in which case it presses against the posterior wall of the trachea, and is often ejected. Sometimes it is too short, and cannot be retained unless the plate be deeply buried in the wound.

"Fourthly, ordinary, and even improved tubes are difficult of introduction, in not being provided with a *pilot*." It is not, however, contended that the pilot is an original device, for such an aid, in some form or other, has long been familiar to the profession.

Besides the foregoing, we may add the dragging forward of the trachea by all canulas having a single and circular curve.

To obviate these deficiencies, a new form of canula is proposed by Mr. Durham, which we know, from experience, to be greatly superior to "any hitherto made known." The chief points of originality, says the author, are in the shape of the canula, and the arrangement by which it is capable of being readily adjusted to the depth at which the trachea may be found to lie.

"The instrument consists of an outer tube, which is intended to pass *straight* back into the trachea, and then to turn downwards in such a way that its extremity shall occupy the middle of the trachea, and its edges shall not unduly press against the mucous membrane. The straight portion of the tube slides backwards and forwards in a collar, but can be fixed at any point by means of a screw. The portion of the tube in the wound may thus be regulated in length according to the depth at which the trachea is situated. The projection of the outer end of the tube beyond the collar is by no means disadvantageous. It renders expelled mucus, etc., less likely to be drawn in again by the next inspiration.

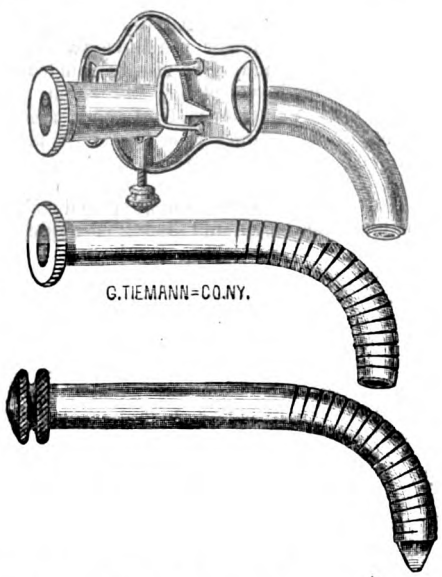
"The collar is attached to a small plate, which is connected with the neck-plate by means of two alar processes passing under little wire arches (upon the prin-

ciple of Roger) in such a manner as to permit a certain amount of motion in various directions. The tube is thus enabled to accommodate itself during various movements and changes in relative position of the trachea and superficial parts of the neck.

"The inner tube is peculiar in that its distal portion consists of several small pieces joined together, somewhat in 'lobster-tail' fashion. The adoption of this plan of construction is necessary to enable the tube to pass along the straight portion of the outer tube, and then to curve down and fit into the perpendicular portion. This inner tube is so long as to project somewhat beyond the extremity of the outer tube—a very essential point.

"Lastly, the blunt-pointed pilot trocar, made also in 'lobster-tail fashion,' and mounted in a handle for security of manipulation. This accessory certainly deserves to be universally adopted."

The article in question led us to order from London last summer two sizes of Durham's canula, with pilot; and being satisfied with the practical operation of the instrument, we referred its reproduction in this country to Messrs. George Tiemann and Co., who not only undertook the manufacture on our recommendation, but also made two changes, which are to be regarded as real improvements. Besides the alterations presently to be noted, the cost of the American canula is less than half of twenty-five dollars, which we paid for the English one.



The first modification consists in transferring the long collar screw from the side to the sternal edge, and curtailing its length.

The second improvement affects the inner tube and the pilot. Instead of the "lobster-tail" arrangement for flexibility, a spiral is substituted, which occupies less space, is easily cleaned, and lessens the price. We may also add that we have found the spiral to remain *in situ* by its "spring" when the loose "lobster-tail" became disengaged.

As to size, we cannot do better than refer to Mr. Holmes's well-known volume on "The Surgical Treatment of Children's Diseases." On page 324 he says: "An idea prevails that the trachea tubes in common use are too small." Now, apart from the difficulty of introducing a large tube in a small child, "what necessity can be imagined to exist for a larger opening than nature gives us? The aperture of the glottis is not larger, I think, on an average, than that of the trachea tubes in ordinary use."

On page 325 the same author gives the following summary of Mr. Marsh's measurements of the trachea and cricoid at various ages, the latter because "the windpipe at the cricoid cartilage is the smallest part of the air-tube."

Age.	Trachea.	Cricoid.	Age.	Trachea.	Cricoid.
1	10	9	6	13	11
2	10½	8	7	13	12
3	11	9	12	20	14
4	13	9	16	20½	18½
5	13½	11	Adults.	26	23½

The measurements are in $\frac{1}{10}$ths of an inch.

Again, on page 326, Mr. Holmes continues: "I have measured three of the tubes in actual use at the Children's Hospital. The smallest (which I have myself introduced above the thyroid isthmus at a little over a year old) is of the diameter of $\frac{4}{10}$ths of an inch. This is the just extent of the long diameter of the elliptical opening of the glottis at the age of two years eight months; so that the whole area of the section of the tube would be much larger than the glottis was found to be at double the age. The second tube measured $\frac{4}{10}$ths of an inch, exceeding considerably the size of the glottis at three years ten months; and the third, $\frac{5}{10}$ths of an inch: much larger than the glottis at the extreme limit of ten years, at which we admit in-patients. As far, therefore, as the tubes in ordinary use in childhood are concerned, I believe that they are usually larger than the glottis, and therefore as large as can be required."

In conclusion I may state that I am still most favorably impressed with the superiority of the Durham canulas and pilot over any other forms. They are introduced with the utmost facility; and I find, by reference to my note-book, the canula is perfectly adapted to the inclination of the trachea, and adaptable to its varying depth, and its point will not fret the anterior wall of the trachea.

I have just removed an English Durham tube from the neck of a child aged 5 years, on whom I did tracheotomy, and I am convinced that the excellence of the instrument contributed largely to the attainment of a favorable termination of the case.

I may be allowed to add that besides the English canulas I am provided with a set of Tiemann's improved. In all of them the only thing to be desired is the possibility of establishing an aperture at the angle of *both* inner and outer tubes. I now use the outer one, so perforated, alone, from time to time, under surveillance, but replace the inner one at intervals, lest inspissated mucus might obstruct the outer canula. I am also in the habit of testing the condition of the air passages by inserting a wooden plug into the mouth of the outer tube, and maintaining it there for a while.

28 Franklin street, Baltimore, *October* 13, 1870.

Prof. E. R. Peaslee will deliver four lectures on Ovariotomy at the College of Physicians and Surgeons, during November, on Friday afternoons at 4 o'clock. These lectures are *free*, and the Profession are particularly invited.

Fighting Neutrals.—The *Revue de Thérapeutique Médico-Chirurgicale* of September 15th states that at the battle of Sédan five hundred surgeons and hospital nurses took part in the fight, and left more than two hundred of their number dead on the field of honor.

Medical Items and News.

NEW YORK PHYSICIANS' MUTUAL AID ASSOCIATION.—At a large meeting of this Association, held at the Mott Memorial Library, on Nov. 10th, the following officers were elected for 1870-71: James Anderson, M.D., *President;* Wm. W. Reese, M.D., of Brooklyn, *1st Vice-President;* C. R. Agnew, M.D., *2d Vice-President;* J. S. Monell, M.D., *Recording Secretary;* S. Ayers, M.D., *Asst. Secretary;* Horatio S. Smith, M.D., of Brooklyn, *Corresponding Secretary;* E. H. Janes, M.D., *Treasurer.*

Trustees for one year: Drs. Wm. N. Blakeman and Alfred Underhill, of N. Y.; C. S. Michel, of Brooklyn.

Trustees for two years: Drs. Gurdon Buck, R. J. O'Sullivan, and M. Herzog.

Trustees for three years: Drs. Joel Foster, James Kennedy, and J. H. Hinton.

From the reports of the Recording Secretary and Treasurer we learn that 5 members have died since the organization of the Association, and 162 members have been proposed and elected during the past year.

The Association, which includes Brooklyn, is now in good working order, numbering several hundred members, and has some excellent features incorporated in the new Constitution, such as: In case a member is destitute, having no family, he can draw on his assessment; also the Association has been granted the privilege of a bed and room, with the attendance and comforts of each of the hospitals in New York and Brooklyn, in case of extreme need, etc.

The managers anticipate this year a sufficient number of members to swell the donation to the heirs to two thousand dollars, upon the death of each member.

CONTAGIOUS DISEASES.—Dr. Moreau Morris presents the following statement of the number of contagious diseases, as reported to this Bureau during the week ending Nov. 5th inst., in comparison with the previous week:—

Week Ending	Typhus Fever.	Typhoid Fever.	Relapsing Fever.	Small Pox.	Scarlatina.	Measles.	Diphtheria.
Oct. 29.	4	26	20	1	20	10	9
Nov. 5.	4	22	18	3	39	18	10

MEDICINE IN INDIA.—At a special meeting of the Hunterian Society, in London, Dr. Baboo Chunder Roy gave the subjoined account of medicine in India, which we take from the *British Medical Journal:* The physicians of India had sprung from two of the castes—the Brahmins, who were the most highly educated and from whom the priests were chosen, and the Boyshos or traders, who were not allowed to learn Sanskrit or to reach the higher education of the Brahmins. Medicine and surgery were distinct; the latter being entrusted to barbers, whose operative skill was very limited. Medicine was from very ancient times divided into anatomy, materia medica, and the treatment of diseases. The study of anatomy was very imperfect, in consequence of the prejudice against handling dead bodies. What knowledge of anatomy the Hindoo possessed, was gained from the dissection of goats; and an acquaintance with the human skeleton was obtained by allowing bodies to remain in water till the bones and ligaments alone were left. The umbilicus was supposed to be the centre of the vascular system. The blood was regarded as a mixture of humors. The materia medica attracted attention at an early period; and the articles were described with a view to their dietetic as well as to their therapeutic properties. Mercury, arsenic, iron, and several other mineral remedies were known in Hindoo medicine many centuries ago. Gold dust entered very extensively into the formulæ; perhaps not so much for the sake of increasing the therapeutic value of the medicines as their cost. Sesquioxide of iron was the chief basis of tonic remedies. Arsenic had been long used in the treatment of intermittent fever. There were a large number of remedies belonging to the vegetable kingdom in use in India from remote ages, some of which, as bael, chirayta, etc., had been received into the *British Pharmacopœia.* Baboo Chunder Roy recommended a careful investigation of Indian medicinal plants; believing it probable that among them would be found some valuable remedies for the prevalent diseases of the country. In the works on practice of medicine, the description of symptoms was very exact, but the treatment was empirical. In fevers, low diet was enjoined; the patient was kept for forty-eight hours without medicine; then bitters and purgatives were administered; and then, if the fever persisted, arsenic in divided doses. This treatment rarely failed to arrest the disease in ten days; but it left the patient's constitution in an impaired state. Surgery was in old times entrusted to barbers, whose practice was limited mostly to the treatment of ulcers, abscesses, etc. But for ages there had been persons who performed the operation for depression of cataract, cupping (by means of cow's horns), bleeding (in the calves of the legs), etc. Hygiene had long held a place in the Hindoo system, being mixed up with religious rites. Washing in the Ganges was thus made a religious ceremony. The flesh of the ox was forbidden, on account of the use of the animal in agriculture, and of the cow in yielding milk; and that of the pig on account of the filthy habits of the animal. Dry earth had been long used for removing offensive smells. Change of climate, in the form of pilgrimages to distant lands, had long been a remedy in chronic diseases. With all this, there was ignorance of some of the fundamental principles of hygiene. Poison and pure air were in the same category; and a Hindoo sick room was rigidly closed at all points.

IOWA STATE UNIVERSITY.—From the Catalogue of the Iowa State University for 1869-70, we learn that 434 students are in attendance in the several departments of this young and thriving institution. The medical department of the University has been organized at Iowa City, a place of 12,000 inhabitants, and fifty-five miles west of the Mississippi river. The fees are merely nominal ($20).

DEATH OF OLD PERSONS.—John Van Emburgh, of Kearny, N. J., died on Thursday, the 22d of September, aged 104 years. At the age of 96 he married a German girl sixteen years old, and within a year she presented him with twins.

John Kitts, the oldest inhabitant in Baltimore, Md., died September 25th, aged 108 years. He was an army teamster during the Revolution.

HARVARD MEDICAL COLLEGE.—Prof. W. T. Lusk, of Long Island Medical College, will deliver a course of lectures on Physiology, at Harvard Medical College, the ensuing winter.

A NEW WORK BY DARWIN.—This distinguished author has a new work in press to be out this season. It is entitled the "Descent of Man and the Selection in Relation to Sex."

GASTRIC ULCER.—Ulcer of the stomach is quite common in some parts of the Continent of Europe and in England; but it is comparatively rare in this country.

PHOTOGRAPHY OF THE SUN.—Prof. Young, of Dartmouth College, has succeeded in photographing one of the protuberances on the sun, a scientific feat often before attempted, but never accomplished. The operation was performed with a telescope, assisted by a spectroscope.

GERMAN PSYCHOLOGY.—The *Archiv für Psychiatrie und Nervenkrankheiten*, established by the late eminent Prof. Griesinger, is now ably conducted by Dr. L. Meyer and Dr. C. Westphal, two learned German psychologists.

A MEDICAL TRANSLATOR.—A new translation of the "Satires of Horace," by Dr. Andrew Wood, an eminent Scotch physician, is announced in Edinburgh.

THE CAUCASIAN AND AFRICAN RACE.—Harvey L. Byrd, M.D., Prof. of Obstetrics in Washington University of Baltimore (*Balt. Med. Journ.*), asserts that the negro requires more carbon for the well-being of his organism, and far less oxygen, at least during sleep, than the white man.

FRENCH PRIZES CONFERRED.—M. Le Roux received this year the *Annual Tremont Prize*, worth 1,100 francs, for his researches on thermo-electric currents.

The Poncelot Prize was bestowed on Dr. J. R. Mayer, at Heilbronn, for his work on "The Mechanical Theory of Heat."

Medals, of the value of 3,000 and 2,000 francs each, were given to MM. Legros and M. Onimus and M. Cyon, for their researches on the application of electricity to therapeutics.

Dr. Friedel received the *Jecker Prize* for investigations on organic silicium compounds.

PROFESSOR MAGNUS' SUCCESSOR.—Prof. Helmholtz, late of Heidelberg University, has accepted the chair of Physics in Berlin University, made vacant by the death of Prof. Magnus.

A SMALL SALARY TO A NOTED LECTURER.—Prof. Huxley, who will soon visit our country, receives only £600 per annum, from the British Government, for his scientific lectures given in the School of Mines.

PETROLEUM IN VERA CRUZ.—Twelve petroleum wells have lately been discovered in the district of Minutitlan, State of Vera Cruz.

HAIR DYES AND LUNACY.—A French journal asserts that 7 per cent. of lunatics are made so by the employment of hair dyes.

FRENCH CATHETER GAUGE.—A prominent writer in the *Dublin Quarterly Journal of Medical Science*—Dr. B. Kills Richardson — confirms all that Sir Henry Thompson advocates in favor of the French catheter gauge over the English one. Were it not for the fine French bougies (the ½ and ¾), as well as the larger half-sizes, his initiatory dilatation of several very close strictures would have been unnecessarily prolonged.

Such eminent manufacturers as the Messrs. Weiss, of London, are now making all their instruments on the French scale.

SMALL-POX AMONGST THE FRENCH SOLDIERS.—Small-pox, which has been so common in France, and especially in Paris, is prevalent also in the French army. Five of the wounded French now in the hospitals of Berlin were taken ill with it and were brought to the small-pox wards of the Charité Hospital; two of them died. The invasion of France by the German armies will be a test, on the largest scale, of the efficiency of the vaccination and revaccination performed on every recruit of the Prussian army.—*British Med. Journal.*

HAIR DYE.—J. B. A. Risk, M.D., Morgan, Ky. (*The Cin. Med. Repertory*), submits the following innocuous hair dye: A substance for a safe and effective hair dye can be found in the black walnut. This can be obtained by macerating the green hulls in water; the coloring principle is taken up, and this is imparted to the hair by application; but it should be applied carefully, as it will stain the skin also.

After the hair is thus colored, the subjoined mixture applied for a few nights will improve its appearance very much: Mix equal parts of water and glycerine, and to each pint of the mixture add lac sulphur, 3 ij, and a few drops of oil of bergamot. Before this compound is applied it should have a severe shaking, so as to mix the sulphur with the fluid. Apply once or twice a week at night.

ACUTE GASTRIC SOFTENING.—Jaeger, Cruveilhier, and Billard describe this form of gastritis which occurs in very young children, and leads to softening of the mucous lining of the stomach. They have each made this softening a subject of special study; yet its nature is not fully understood. Cruveilhier has seen it occur in epidemics.

CANCER.—Cancer is found more frequently in the stomach than in any other organ excepting the uterus. Of 9,118 cases of cancer which occurred in Paris from 1837 to 1840, 2,303 were in the stomach.

A DIAGNOSTIC SIGN IN ACUTE ENTERITIS.—Dr. Stokes, of Dublin (*Cyclop. of Prac. Med.*), first noticed the following sign characteristic of this disease: Toward the right of the umbilicus, it is not uncommon to find a marked pulsation, as if from throbbing of the abdominal aorta or of its large branches.

PHOSPHORIC ACID IN THE URINE.—The average quantity of this acid passed by an adult male in twenty-four hours is, according to Vogel, nearly fifty-three grains.

TEMPERATURE OF THE BODY.—In temperate climes, according to Wunderlich, the average heat of the body is estimated at 37° centigrade in the axilla; that of freshly voided urine is about the same. Expressed in the scale used in this country, it may be stated that the average heat of sheltered and internal parts of the body is 98.6° Fahr.

PHYSICAL SIGN IN BRONCHIAL DILATATION.—Skoda (*Allgem. Wien. Mediz. Zeitung*) describes, as a peculiar physical sign present in sacculated bronchial dilatation, connected with disease of the lungs, a large and coarse crackling, called by him the large bubbling, dry crepitant râle.

PHYSICAL DEGENERACY.—According to Dr. Nathan Allen, of Lowell, Mass. (*Journ. Psychological Medicine*), there are at the present time many less children for the same number of families than formerly. By the census returns of 1765 and 1865, there are now found only about one-half as many children, under 15 years of age, relatively to the adult population, as there were one hundred years ago.

Formerly the average number of children to each family would range from 6 to 8, but probably now will not exceed 4, and may not be much over 3. It is a fact, settled by mortuary statistics, that about two-fifths of all children born die before reaching adult life.

THE INVENTOR OF SPECTACLES.—On a tombstone at Florence is this inscription: "Here lies Salvino Armato d'Armati, of Florence, the inventor of spectacles. May God pardon his sins. The year 1318."

Original Lectures.

THE PATHOLOGY OF TUBERCULOSIS.

BEING REMARKS MADE IN THE DISCUSSION OF THE SUBJECT BEFORE THE NEW YORK ACADEMY OF MEDICINE.

I. By William H. Draper, M.D.,
II. By John C. Peters, M.D.,
III. By James R. Leaming, M.D.,
IV. By William M. Chamberlain, M.D.

STATED MEETING NOV. 3, 1870, DR. H. D. BULKLEY, IN THE CHAIR.

I. Remarks by William H. Draper, M.D.

It is with some diffidence that I appear to open the discussion upon the questions involved in the papers which have been read at the two last meetings of the Academy. Dr. Flint, in the very able and interesting paper which he read at the last meeting, reviewed the recent opinions upon the pathology of phthisis, and brought to the task the calm and conservative judgment which is only attained by a rich experience and ripe culture; and if in the remarks I am about to make I shall take occasion to differ with him, I would have you bear in mind that I am only expressing the opinions of those whose observations and experience entitle them to equal attention and respect.

In the paper which I had the honor to read a month ago, I attempted to lay before you an historical review of the pathological views which have been held since the beginning of the present century in regard to pulmonary phthisis. Beginning with the opinions of Bayle and Laennec, I endeavored to trace the origin and progress of the opposing theories which have divided the profession upon this subject up to the present time; and one of the results of our inquiry was the development of the fact, that in many essential points the opposing opinions to-day are but a reflection of those which divided Laennec and Broussais. We deemed this an important fact in the study of this question, because the new views, as they are called, are not, strictly speaking, new. They are, in truth, in many particulars, as old as the views to which they are opposed. They are new, in the sense they have received new life from the latest discoveries in pathology, and therefore they appeal the more strongly to our consideration at the present day.

It is evident that Dr. Flint, while he is disposed to admit that recent investigations tend to modify the old views of the pathology of phthisis, still inclines to hold fast to the doctrines of Laennec as to the specificness of tubercle, and to oppose the inflammatory origin of consumption and the secondary nature of tuberculosis. We do not propose to repeat the evidence given in our first paper, which seems to us incontestable, that Laennec confounded diverse products under the name of tubercle. It is sufficient for our present purpose to renew the statement, for which we think sufficient proof exists, that the very fact that tubercle has an anatomical character and site of its own, distinguishing it from caseous substance, which has equally distinctive anatomical elements and location, shows that these two products are the result of different morbid conditions. We shall confine ourselves this evening to a few remarks on certain practical points suggested by Dr. Flint's paper.

The first point to which we wish to call attention is the etiological relation of bronchial catarrh to pulmonary phthisis; for this question is the most important, perhaps, in a practical point of view, of all the questions embraced in the discussion. It involves directly the inflammatory origin of a large number of cases of pulmonary phthisis, and indirectly involves the question as to the consecutive nature of true tuberculosis, reserving this latter term to designate the cases in which the evidences of inflammation are complicated with miliary granulations.

Laennec admits that "it is certain that in the majority of phthisical persons the first symptoms of the malady are those of a pulmonary catarrh, but that it is equally certain that very voluminous and numerous tubercles are found in persons who have really no sign of catarrh." Laennec reasons from this latter circumstance that the catarrh, when it appears to be the commencement of a consumption, is really a secondary pneumonia, preceded by the deposition of tubercle; and he uses as an argument against the theory that the catarrh is the primary affection, that "thousands of persons have bronchial catarrhs several times a year, and very few become phthisical; and, moreover, that many have a mucous or pituitous catarrh, with abundant expectoration, and advanced age, without becoming phthisical." We might, it seems to us, with equal propriety, argue that there was no connection between stricture of the urethra and gonorrhœa, because the great majority of those who suffer from urethritis do not have stricture as a consequence. Another argument which Laennec uses in favor of the non-catarrhal origin of pulmonary phthisis would hardly be accepted by clinical observers of consumption in this country, viz.: "That the maritime population of our coasts is much more subject to pulmonary catarrh than the inhabitants of the interior, and that the latter are much more subject to pulmonary phthisis than the former." We believe that the statistics in this country would not confirm this statement, but would rather prove that consumption is most frequent where catarrh is most common, viz., our coasts, where the climate is characterized by the most sudden and extreme changes of temperature, and by excessive moisture.

Laennec, in discussing the relations of phthisis to catarrh from the anatomical point of view, declares that in order to prove that pulmonary phthisis is even a sequence of catarrh, it must be shown, scalpel in hand, that the one passes into the other, and that this is impossible, because the catarrh is an inflammation of the bronchial mucous membrane, while the tubercles are accidental productions, veritable foreign bodies developed in the pulmonary substance, and which may also be found in all the other tissues of the body, and which are very rarely found in the substance of the bronchial mucous membrane.

This argument, in the light of the modern pathology of tubercle, falls to the ground. Laennec maintained that caseous masses and granulations were only different forms of the same morbid products. Microscopic anatomy has demonstrated that they are distinct substances, that is to say—that caseous masses are frequently of inflammatory origin, and, when alveolar in their site, probably always so—while the granulations, the true tubercles, which are found in the connective tissue surrounding the blood-vessels, constitute a genuine neoplasm. To maintain the doctrines of Laennec in regard to pulmonary phthisis, therefore, is to ignore all progress in pathological anatomy. It is not, as has been suggested, a mere dispute about terms, but about things. If we admit that the microscope has demonstrated that the true tubercle granulation is one thing, and that caseous masses are another; that granulation is composed of cells of definite shape and size, and developed in a particular tissue, and that caseous masses

are composed of cellular bodies of entirely different character, and developed in a different locality, then we must admit that the diseases in which these products occur are essentially different diseases, whatever difficulties we may encounter in distinguishing them clinically. Every one who has had any experience in the post-mortem examination of cases of phthisis has observed cases in which the so-called caseous masses and excavations have existed without a trace of tubercular granulations. Laennec himself describes such cases in his account of what he terms the gray tuberculous infiltration. He says "this infiltration is formed frequently around tuberculous excavations: one sees it also developing itself primitively in lungs which do not yet contain tubercles, but this is extremely rare. Sometimes, however, tuberculous masses of large size are formed in consequence of a similar impregnation or infiltration of tuberculous matter in the first or semi-transparent degree, and without previous development of miliary tubercles." We have quoted this statement from Laennec to show two things: first, that even he did not regard the miliary granulation as an essential element in the pathology of phthisis; and secondly, to note the fact that he speaks of the granulations as not *yet* formed where infiltration had already occurred,—as if he regarded the tuberculous granulation as sometimes a sequence of the infiltrations in point of time. And here it is worthy of remark, that no one can read at the present day Laennec's incomparable and exhaustive descriptions of the lesions of pulmonary phthisis without paying homage to his truthful accuracy of observation as a pathologist, no less than to his genius as the discoverer of auscultation. It is not surprising that the impress of his teaching should still be manifest, nor strange that it should have required a genius of equal magnitude to efface it. The glory of Laennec is imperishable, and the work he accomplished for pathology only paved the way for the brilliant discoveries, in our day, of his compeer beyond the Rhine.

The second point to which we wish briefly to refer, is the present theory as to the specificity of tubercle. Dr. Flint, in his paper, alludes to the experiments of Villemin as demonstrating the specificity of tubercle—that is to say, as showing that tubercle is reproduced only by the inoculation of tuberculous matter in its granular or caseous form. But we desire, in the first place, to call attention to the fact that Villemin accepted Laennec's views of the identity of tuberculous granulations and the caseous or infiltrated tubercle; and, in the second place, to refer to the complete refutation of Villemin's conclusions furnished by the subsequent experiments of Andrew Clark, Wilson Fox, and Waldenburg. Villemin did indeed reproduce tubercles by the inoculation of tuberculous granulations and yellow tubercles, but, as is well known, precisely similar effects followed the inoculation of a great variety of morbid products, and even of such foreign substances as purely divided aniline blue and carmine, in the experiments of Clark, Fox, and Waldenburg.

These experiments seem to prove conclusively, that tubercle lacks the essential element of specificity, in the sense in which this term is applied to the virus of variola, syphilis, and other diseases which are only reproduced by their own infectious principles. Villemin's objections to the results of the experiments to which we have just alluded are, we think, scarcely tenable. He says that when tubercles were produced by the inoculation of other substances than granular or caseous tubercle, either the observers were mistaken in supposing that the products which resulted were tubercles, or that they unconsciously introduced tuberculous matter with other substances. The first supposition, that the products of the inoculation were not tuberculous granulations, is an assumption unworthy of consideration; and the second, that tubercle virus was latent in the other substances with which inoculations were made, is certainly improbable. And even supposing that the virus did lurk in the morbid products that were used, how would the results of the inoculations with purely divided inorganic substances be explained? But do these later experiments prove anything more than that tubercle is *not*, in the strict sense of the term, a specific product? Are the tuberculous granulations secondary to the caseous masses? In answering this question, it must be confessed that we leave the field of absolute demonstration, and enter into the region of speculation; and yet we believe that the theory which has been advanced upon this point is justified in no slight degree by pathological and clinical evidence.

We considered at some length, in our first paper, the pathological evidence presented by Buhl, Hoffman, Niemeyer, and Waldenburg, in favor of the theory as formulated by Waldenburg—that "miliary tuberculosis is a resorptive disease, produced by the absorption of very minutely divided corpuscular particles into the vascular circulation, and their deposit in the form of granulations at numerous points in various organs." It will be remembered that in the inoculation of animals the substance which most frequently produced tuberculosis was caseous matter, whether resulting from true tubercles, or from inspissated pus, or from hyperplasia of lymphatic glands—hence the conclusion "that the existence of caseous matter in any organ of the human body is the most important and most frequent cause of tuberculosis."

The frequency of these caseous masses in the lungs, as the sequence of lobular pneumonia, has led to the suspicion that the absorption of the detritus of these masses is the most common cause of tuberculosis of the lungs. And the fact, which was noticed and most accurately described by Laennec, that the tuberculous granulations were formed about the periphery of these masses and excavations, serves to support this idea of a local infection. The occurrence of the granulations upon the pleura, near to underlying cavities, or caseous masses, and their existence also on the peritonæum, in the immediate neighborhood of ulcerating intestinal glands, is further evidence of their secondary character. Buhl, Hoffman, and others, have accumulated from careful post-mortem inspection much proof of this kind, to show that the development of tuberculous granulations is the result of local infection, and that, when the process becomes generalized, the fact is to be explained through a multiplication of the foci by infection.

Waldenburg quotes Rokitansky as authority for the statement that only in rare instances is acute tuberculosis a primary disease. It depends, he says, in most cases upon a preceding fibrous tuberculosis, especially of the lungs and lymphatic glands; and hence, as a rule, that the miliary tuberculosis is confined to the organ affected with the fibrous tuberculosis. It must be remembered that Rokitansky calls caseous products tubercle, and distinguishes the granulation by the term miliary. Virchow, too, expresses the confident opinion that, in the great majority of cases, the miliary tuberculosis is preceded by caseous bronchial or mesenteric glands, caseous nodules in the lungs, or isolated ulcers in the intestine, but he admits that in rare instances of miliary tuberculosis no infectious masses can be found. Authorities are nearly unanimous that the circumscribed tuberculosis in the meninges is almost always a secondary or connective disease. Buhl describes

nine cases, in every one of which primary or pre-existing caseous masses were found in the lungs or lymphatic glands.

Rokitansky also asserts that in the great majority of cases tubercular meningitis is a secondary affection—preceded by tuberculous disease in the lungs, lymphatic glands, or brain. It is also known to be preceded in some instances by suppurative discharges from the ear.

It is interesting in this connection to note an observation made by Waldenburg in regard to the causes of phthisis recognized by the ancients. It was believed formerly that phthisis occurred in consequence of the suppression of customary secretions, or excretions—whether physiological or pathological; as, for example, by the suppression of blennorrhœa, cutaneous eruptions, and the sudden healing of chronic ulcers and fistulæ; after sudden checking of menstruation, and hæmorrhoidal discharge and the like.

It is not impossible that science may yet confirm in this instance, as it has done in many others, the correctness of the deductions made by the ancients, from purely clinical evidence.

It may be objected to this evidence of the secondary nature of miliary tuberculosis that the exceptional cases, where no infecting masses can be found, prove that there is no necessary relation between caseous masses and miliary tubercles. All that can be said in answer to this objection is, that the infecting mass may have escaped detection; and, considering the fact that this relation has not until late years been suspected, it is not unreasonable to suppose that greater care in post-mortem examinations may show that the exceptions which have been noted were probably only apparent.

We leave here the anatomical considerations which tend to show the etiological relations of miliary tubercles to caseous masses, and pass to a brief review of the clinical evidence which may be brought to bear upon this subject.

It has been remarked that miliary tuberculosis, especially in its acute form, is oftentimes difficult to distinguish from typhoid fever. It presents the history in many instances, in a remarkable degree, of an acute infectious disease. And the cases are not rare where the first suspicion of tuberculosis has occurred at the post-mortem inspection. The miliary tubercles constitute, so to speak, a sort of eruption in the lungs and other organs, which may entirely escape detection. The symptoms are those of an infectious disease, and the only certain means of differentiating the disease in its earlier stages from typhoid fever is the evidence of previous disease in the lungs, or of caseous masses in the glands or other organs. That the origin of these cases lies within the individual, and that they are not specific in their origin, in the sense in which the exanthemic fevers are, is evident from the fact that such cases are never epidemic, and that they are not dependent upon telluric or atmospheric influences. The symptoms of blood-poisoning which we observe in this disease are explicable, as those of pyæmia are, by the absorption of corpuscular elements into the circulation. It is not only in general tuberculosis, however, that the similarity of tuberculous disease to essential fever is observed.

The difficulty in some cases of differentiating between infantile remittent and a localized tuberculous meningitis, has often been encountered. Again, in the history of pulmonary phthisis it is by no means uncommon to observe severe febrile symptoms, of recurrent form, suddenly developed, which cannot be accounted for by the occurrence of an intercurrent inflammation. These are the cases in which, as Niemeyer expresses it, the patients have suddenly become tuberculous—in his opinion, the greatest danger to which the majority of cases of pulmonary phthisis are subject.

We have endeavored to present a few of the more important points involved in the discussion of the pathology of pulmonary phthisis. They may be summed up as follows: 1st. The diversity of pathological processes presented in the pathology of pulmonary consumption, as shown by the microscopic anatomy of the different morbid products which are found in the lesions of this disease. 2d. The clinical evidence of the inflammatory origin of numerous cases of consumption, as indicated by their catarrhal origin. 3d. The non-specificness of true tubercle, as proved by the inoculation experiments. 4th. The hypothetical view of true tuberculosis as a resorptive disease, and as a sequence of caseous masses in various organs.

There are several other important questions connected with the discussion of this subject relative to the contagiousness of phthisis, its hereditary history and treatment, of great practical importance, which were considered by Dr. Flint, and which we trust will be made the topic of further remark by the members of the Academy whose knowledge and experience enable them to speak upon these questions.

II. Remarks by John C. Peters, M.D.

In accordance with the desire of the President that all the Fellows, or as many as possible, of the Academy, should prepare themselves for a discussion of the so-called new views of tuberculosis, I have made some preparation.

This was the more easy, as I had paid somewhat particular attention to the subject in 1854, and again in 1860—and more or less, perhaps less, since then.

I find nothing very new, if we admit all the facts and theories of Virchow and Niemeyer, and even add still more to them, derived from the labors of such excellent physiological chemists as Simon of Berlin, Lehman of Leipzig, and Day of St. Andrew's College, Edinburgh. They are simply a return to the notions of Carswell, that tuberculosis commences in the air-cells and smaller bronchi; and to those of Addison, Broussais, Wilks, etc., that it generally arises from some form of inflammation of a low type; and to those of Hasse, Preuss, Cerrutti, Vogel, Guterbock, etc., that tubercle is always caseous.

Even if we side with Virchow and Niemeyer, it is not yet necessary to modify seriously the doctrines of Laennec and Louis, or those of Swett, Clark, or Flint, or the opinions of the mass of the profession in this and every other country.

This arises principally from the fact, that our views of the nature and treatment of inflammation are very different from what they were in the times of Laennec and Broussais; and it may easily be made very clear that it would have been a great misfortune, from the times of Laennec almost down to the present day, if Laennec had adopted Broussais's, or even Niemeyer's notions of inflammation, provided he had carried them out to the full extent that Broussais had impressed upon them.

In our times, which are those of Niemeyer, it makes very little difference whether we lean to the theory of the subacute inflammatory, or dyscratic origin of tubercle. We treat all fevers and inflammations very differently now from what Broussais did of old, and the treatment of tuberculosis is not very seriously modified by Niemeyer, simply because he has adopted the modern or restorative treatment of inflammation.

It also makes very little difference whether we cling to the idea that there is only one form of tubercle, or admit that there are two. For true miliary tubercle often undergoes the caseous degeneration; and primary caseous deposits are often followed by the secondary formation of miliary tubercles, as is proven by the experience of every practical physician who is in the habit of seeing or making post-mortem examinations; and we believe that both the miliary and tuberous forms of tubercle are made up of casein.

Every observing physician must have seen cases of true general miliary tuberculosis occurring in almost every organ, viz.: in the membranes of the brain, in the lungs, pleura, spleen, peritonæum, kidneys, etc., and yet not preceded by any caseous or yellow tubercle that could be discovered.

Again, every physician must have seen cases of primary and chronic scrofulous or tuberculous disease of the glands of the neck, followed by miliary tubercles of the brain, lungs, etc., not attended by any caseous or yellow tuberous tubercle, or mass, in any internal organ that could be discovered. The two diseases precede or follow each other indiscriminately, because they are closely allied to each other, if not absolutely identical.

These remarks may seem all the more strange because I strongly incline to some of the so-called modern views of tuberculosis, except I think them very old.

To make these points more clear, Dr. Peters exhibited to the members of the Academy thirty-three colored plates of portions of lung, showing tuberculosis acuta vel miliaris; pneumonia catarrhalis of children; Niemeyer's catarrhal pneumonia; pneumonia ulcerosa; connective tissue corpuscles; cancer formed in connective tissue like pus, and tubercle; tubercle granules in air-cells from Bennett, 1858; tubercle from lung tissue, normal pus globules, tuberculous matter with melanosis, etc.,—all from Dr. Swett, 1852; bronchitis with both plastic and cheesy deposit, expectoration in hepatization, congestion, etc.,—from Dr. Dobell; blood globules in phthisis from Thompson; deposits of tubercle both inside and outside of the air-cells and bronchi, etc.

1st. As to the question whether there are one or two forms of tubercle.

The majority of the profession are now inclining to the opinion that there is but one elementary form of tuberculous deposit, viz.: the gray granulation, or miliary tubercle: and that many of the cases in which extensive and uniform cheesy deposits are found in the lungs depend more upon chronic catarrhal, or a low and unhealthy type of the inflammatory process, or even scrofulous inflammation of the part, than upon true tuberculous formation.

We have to decide whether these latter are simply inflammatory, or truly tuberculous—or whether they may become one or the other. My own opinion is that there is no difference between the two forms of the disease, except their location and size, and that large yellow tubercles are always mixed with the débris of epithelium, mucus, pus, exudation-globules, etc., in the lungs.

Virchow throws no light upon the point why miliary tubercle is formed in the connective tissue; but this substance is one of the few membranes of the body which contain *casein*. On the authority of Lehman of Leipzig, and Day of Edinburgh, it may be stated that casein exists normally in the expressed juice of the connective and elastic tissues. And here we hit, perhaps, upon the first link in the long chain of facts which go to prove the connection of caseous degeneration with tubercle; and we almost immediately find another, viz.: it frequently happens that the albumen in the parenchymatous fluid or plasma which moistens and nourishes all the tissues, assumes a *casein-like* character; *i.e.*, it does not coagulate on heating, is precipitated by dilute acetic acid, and separates in the form of a superficial membrane on evaporation. Hence the fluid which bathes the connective tissue, and nourishes the connective tissue corpuscles, always is somewhat, and may easily become abnormally *caseous*.

These points may also throw some light upon the fact that true miliary tubercle is commonly developed in the adventitia or lamina of connective tissue immediately surrounding the blood-vessels. We know that the parenchymatous fluid which moistens and nourishes the tissues transudes through the capillaries—and if that be already too albuminous, or even caseous, a cacoplastic or cheesy material will be poured out into the connective tissue, and may excite it to increased growth and proliferation; each minute newly formed granule or cell being made up of caseous material, instead of the more gelatinous and fibrous substance which goes to form true healthy cellular or connective tissue.

But cheesy transformation is not peculiar to tubercle; for it is well known that extravasated blood may undergo it; effusions of all kinds, both exudative and inflammatory; epithelium, newly formed cells, connective tissue corpuscles; and all the albuminoid constituents of the blood, such as albumen, fibrin, globulin, etc.; pus, too, often becomes cheesy, and even cancer and sarcoma occasionally. Hence the time seems to have arrived when we must perforce admit a caseous or cheesy transformation or degeneration of many tissues and exudations, just as we have long ago admitted a fatty degeneration, an amyloid transformation, a fibroid conversion, and saccharine, lardaceous, and waxy metamorphoses.

This theory of caseous degeneration has been progressing slowly in the minds of the profession for many years. Over 25 years ago, Rokitansky was teaching that many abnormal products and exudations, which were not absolutely and evidently tubercular at first, soon began to tuberculize and assume the appearance of yellow or caseous tubercles.

For a long number of years before 1857, the celebrated Dr. Addison, of Guy's Hospital, was strenuously opposing the idea that all, or much of the deposit found in phthisical lungs should be called true tubercle.

Addison's successor, Dr. Wilks, Lecturer on Pathology and Curator of the Museum of Guy's Hospital, continued from and after 1857 to teach that soft, yellow, caseous matter was often undoubtedly produced without being preceded by crude tubercle, and was merely a degenerative change, which even simple substances of a fibrous or cellular character might pass into. He thinks, however, that miliary tubercles are quite distinct in formation and character, and not merely in location and size, from the soft yellow tubercle; but correctly states it is this latter product which is most important in phthisis (simply because it occurs in larger masses and greater quantities). He even goes so far as to assert that, in speaking of the ordinary disorganizing processes seen in phthisis, he will entirely dismiss miliary tubercle from consideration, and look to the (caseous) material which he thinks is all essential in the various phases of the disease.

We all know that our own Dr. Swett, who is certainly held in affectionate remembrance by many who are here, taught long before 1853 that tubercles were generated in pleuritic exudations and adhesions, and he often tells us in his writings that we will fre-

quently meet with tuberculous disease of the lungs which has followed an attack of pleurisy, and is secondary to it.

The views of all these men, and of Virchow, Reinhart, Villemin, and others, made but little impression upon the profession at large, until Viemeyer sprang almost like a harlequin into the medical arena, declaring that the greatest danger for the majority of consumptives is, that they are apt to become tuberculous.

We now propose to examine whether we may or must admit a caseous dyscrasia or degeneration of many tissues, products, exudations, cells, &c., just as we have long ago accepted the reality of fatty degenerations, amyloid degenerations, saccharine transformations, and lardaceous and waxy changes.

The best chemical analyses of tubercle quite distinctly corroborate some of the so-called modern views; and they have this great advantage, that they were made long before any theory was at stake upon their results. Thus the accurate Hasse, who drew his conclusions from his own experiments, and from numerous analyses carefully compiled from Cerutti and Vogel, found the organic component parts of tubercle to consist principally of *casein*, with some little fat and albumen.

As regards casein, we know that the primitive food of all young mammals, viz., milk, contains casein, which is readily transformed into the albumen of the brain, liver, kidneys, and other albuminous organs; and into the musculo-fibrin, or syntonin, which go to make up the extensive muscular system; and we now know that these substances are often transformed back again into casein.

It is true Virchow thinks that the casein of milk is formed from the epithelial cells which line the lacteal ducts. These are supposed to be made in enormous quantities during lactation, are transformed partly into casein, and partly into fat, and then are generally swept out by the gushing tide of fluids pushing behind them. Occasionally they are plastered and occluded in the milk-ducts, just as caseous or quasi-tuberculous deposits often are in the air-cells and smaller bronchi, which, it is well known, are as abundantly supplied with epithelium as the milk-ducts.

Casein is also a highly sensitive substance to chemical reagents, often undergoing decided changes from the application of the mildest of them.

We know that gelatine, albumen, and fibrin may be formed out of casein, and we are also sure that the major part of the tissues and parenchyma of the various organs are made up out of gelatine, albumen, and fibrin; but none of them are composed of unchanged casein. Casein is a foreign and inimical substance to them. Hence we are almost justified, at this early stage, in concluding that disease may arise from the formation and deposit of a cacoplastic lymph, largely made up of casein, or at least of one which soon, and readily, undergoes caseous degeneration, and that this constitutes the essence of scrofula and tubercle.

If we look for the origin of this caseous substance, our attention is at first drawn to the globulin of the red blood-corpuscles. These globules contain nearly 300 parts in 1,000 of globulin and cell membrane; and globulin is a substance approaching so nearly in properties to casein, that the great Berzelius called globulin the casein of the blood. The almost equally well-known physiological chemist, Schmidt, also calls hæmato-globulin blood-casein; and our Dr. Draper says, globulin is a substance approaching so nearly in properties to casein, that we may without much presumption infer that it can easily be converted into it.

Now we know that in the circulating blood there are continuous endosmotic currents between the serum, or so-called intercellular fluid, and the viscid red liquid which occupies the interior of the blood-cells. Hence we are almost prepared to concur with Panum, Moleschott, Has, etc., that casein is a normal constituent of the serum of the blood, and to infer that it may occur in an excessive quantity in the tuberculous or some other dyscrasia.

Again, it is well known that the iron of the blood is deficient in phthisis; and it is equally true, though not equally well known, that a considerable quantity of the fatty matter contained in the blood is contained in the blood-globules, which in their dry state should contain, according to Lehman, from two to three per cent. of fat. Hence if the globulin of the blood-globules contains too much casein and too little fat, the normal transudations and the abnormal exudations may easily undergo a cheesy degeneration.

As the predominating ingredients of the blood-globules are globulin, fat, and hæmatin, and all of these are defective and deficient in tuberculous blood, we would naturally expect to find some alteration or defect in the shape and conformation of the blood-globules in phthisis. The well-known Dr. Theophilus Thompson, Clinical Lecturer at the Brompton Hospital for Consumptives, has paid particular attention to this point, and I show his drawings of the alterations which the blood-globules undergo in phthisis.

It is well to add, that in phthisis the red globules may diminish in number from 130 to 78, and the white globules be much increased, so that a peculiar state of the blood, resembling that which obtains in leuchæmia, or immediately succeeds digestion, when many lymph-globules have been quickly poured into the blood, is often found in phthisis.

If the blood-globules are defective in phthisis, so is the serum of the blood. We have already seen that too much casein and too little fat is returned to it from the blood-globules.

The water and albumen of the serum are also in excess, and the albumen is defective in quality, being less capable of being oxidized or transformed into fibrin, and doubtless more easily convertible into casein. According to Aitkin, this defective albumen in the blood of phthisical persons may increase from 76 to 100 parts in one thousand.

In phthisis we also have a blood which is less alkaline than it should be; the serum may be so feebly alkaline that it often becomes turbid from the presence of very small dark molecules of a protein body, because the albuminate of soda in the blood has been deprived of some of its alkali, and a portion of the albumen thus freed from its soda separates in a molecular form.

Finally, it is equally well known that the normal fluid of the blood-globules naturally contains a great preponderance of the potash salts and phosphates, while the plasma or serum has the greater part of the soda salts, especially the phosphate and chloride of sodium—all these are deficient, and this accounts for the feeble alkalinity of the blood in phthisis.

To sum up:—The albumen and water of the serum are in excess in phthisis.

The fat and iron are deficient.

The alkaline salts are deficient.

The serum-casein is in excess.

When this state of the blood obtains, a too caseous serum may be supplied to the connective tissue, followed by the caseous degeneration and proliferation that Virchow places so much stress upon; and thus miliary tubercles may be formed.

Or a caseiform, too albuminous, or too little plastic

or fibrinous substance may exude silently and slowly, in a very insidious manner, into the air-cells and smaller bronchi, etc., and yellow caseous tubercle may arise.

Or, under the influence of a slight or severe cold, or bronchitis, or catarrhal pneumonia, exudations may take place in the lungs, air-cells, and bronchi, which may quickly undergo the yellow tuberculous or caseous degeneration, together with the epithelium, mucous and exudation corpuscles, and other substances found in them.

Thus we may have the combined local and constitutional origin of tubercle.

Away back, as far as the times of Baillie, tubercular disease was supposed to arise from an infiltration of an excessively albuminous fluid, of a thick or synovial-like character, which then gradually degenerated into a fine granular mass, which also included portions of lung tissue when it softened down into pus.

And we have seen the so-called modern views really differ very little from this; if we substitute casein for albumen, all the rest of the theory may remain nearly unchanged.

The correct treatment of tuberculosis flows easily and naturally from the above views. Fatty substances; alkaline remedies, especially the phosphates of soda and potash; iron, especially in the form of the phosphate or iodide, and the avoidance of an excess of albuminous and caseous substances, especially skimmed milk, must always form the basis of our remedial means.

III. Remarks by James R. Leaming, M.D.

If it can be shown that Niemeyer's doctrine of bronchial hemorrhage, as a cause of phthisis, is not based on truth, then the more important theory of catarrhal pneumonia is equally invalidated and falls to the ground.

I can truly say with Dr. Clark, that I have yet to see the *first case* of bronchial hemorrhage, with the exceptions named (disease of the heart, hysteria, or emphysema), in which I did not or could not at the time of the bleeding clearly discover the phthisical cause.

The experience of many observers who have been careful in the study of facts goes to show that a bronchial hemorrhage will not take place without a cause; and individual assertions to the contrary need to be supported by facts, and as they are not in this case, we must deny the assertion of Niemeyer, "that bronchial hemorrhage occurs oftener than is generally believed in persons who are not consumptive at the time of the bleeding, and who never become so."

About one-third of the cases of phthisis, in the class of chest diseases at the Demilt Dispensary, under my charge during nine years, had early hemoptysis, but never a case of hemoptysis without discoverable cause.

The assertion of Niemeyer that "both events spring from the same source—from a common predisposition on the part of the patient both to consumption and to bleeding," is entirely devoid of point and force, for who ever saw a case of predisposition to bleeding without some cause?

I deny that bronchial bleeding is ever of itself a cause of consumption; for if so, it would sometimes be so in diseases of the heart and hysteria, &c.

The acceleration of the fatal disease depends entirely upon its management. If the hemorrhage is copious, and is not interferred with, it will almost certainly arrest progress of active disease.

I have been asked, What should a physician do when called to a case of hæmoptysis? And I have answered, let him hold the basin; that will keep him from mischief in the way of giving medicine. The patient, seeing the physician confident and cheerful, will become assured, and the emotion of fear will subside; the heart will cease to pump blood unduly into the lungs, and when the conservative act of the hemorrhage is accomplished, it will cease of itself. If the after-management be rational, the immediate benefit of a copious hemorrhage in early phthisis, will be evident to the patient as well as to the physician.

Death from hemorrhage in early phthisis is possible, only when there is a cavity of some size at the root of the lung, or wherever there may be an artery eroded of considerable size. In such cases, too, the cavity is generally of recent formation, for in old cavities the arteries crossing them become impervious. If the cavity be small, the patient may be finally exhausted by frequent bleedings; but generally the patient is dead before the physician sees him. The physician, when called to a case of hæmoptysis, should auscultate his patient in the first instance, and if he finds no cavities, or those only in a part of the lung not likely to be crossed by large arteries, he will do his duty by assuring his patient of the absence of danger.

I firmly believe, because I believe physical signs, that tubercle may be absorbed, never becoming active, and for the same reason, I believe that, after the disease has become active, it may be arrested and its effects be nearly or entirely removed. I believe, from the evidence of hearing a fact, that this may take place without treatment, but more certainly under the influence of proper management.

When the disease becomes active, catarrhal pneumonia is the consequence; Niemeyer mistakes the effect for the cause.

Some authorities state that emphysema and phthisis are never found together; but that is not so. A phthisical patient may become emphysematous; but, if so, there will be arrest of phthisis. Here we have bronchitis frequently becoming catarrhal pneumonia, never producing phthisis, and yet always arresting it when it is developed in a phthisical patient. These are facts that invalidate Niemeyer's doctrines, and they are capable of demonstration in any large clinic of chest diseases.

The expert alone, in the living subject, can diagnosticate the difference between true phthisis and cirrhosis of the lung. In one, there is marked failure of vital power; in the other, it is but little affected. One changes but little after the function of the lung is destroyed; the other improves very much in phthisical signs, as well as rational symptoms, or shows marked tendency to progress downwards. One affects but one lung, the other nearly always affects both. I have found cirrhosis of the lung more frequently among German patients than other nationalities;—is it possible that this fact may have been the foundation of Niemeyer's error? I cannot understand that inflammation, either general, chronic, or interstitial, should be destructive of tissue; but abscesses or gangrene may be a result, if nutrition of a part be cut off.

Niemeyer says:—"The term tuberculization, which has been productive of great confusion, and against which I have long protested, has fallen into disuse," &c., &c.

The language in the foregoing quotation expresses the animus of Niemeyer in few words—it is opposite to Laennec. This is the inspiration of all he has to say on the subject of phthisis or its connections. He is not alone in this feeling. Skoda exhibited it years ago, before modern pathology had made any remarkable progress. Skoda might have led the way, after Laennec and Louis, in directing the *study* of facts connected with diseases of the chest, basing it upon the science of acoustics. He discovered the fact of conso-

nating sounds in explanation of certain chest signs. But his eager desire to be opposed to the great founder of physical diagnosis blinded his eyes, and he missed his opportunity. He took no advantage of his discovery, and there it still remains, a single isolated fact—the key indeed to a world of exact knowledge on this subject, but left for development to other hands.

A student in the Charity Hospital of Paris, after a few years of devoted clinical study, discovered mediate auscultation, and in 1819 published the result of his studies, with an account of his great discovery. Seven years later he published his second work, the result of all his investigations, and then went to his country home to die of that disease he had done so much to render comprehensible by all succeeding observers.

These few years of study changed the thought and practice of the medical world in regard to the most fatal disease of mankind. This knowledge opened to us, like all true and valuable learning, is progressive, and every year has added proofs of our indebtedness to the great discoverer.

Modern pathology is yet in its infancy. When accounts of new discoveries are looked for with almost as much eagerness as for war bulletins,—when the news of the discovery of Colnheim divides the attention with that of the fall of Napoleon III., it is seized upon and brought out as demonstrative evidence against all the teachings of Laennec.

It is unfair to compare the pathology of fifty years ago with that of to-day, for the advance of knowledge since then has been marvellous. The memory of Laennec does not live as a pathologist, but as an auscultator. He accepted the pathology of Bayle on tubercle, he did not originate it; but what evidence in our knowledge of tubercle have we beyond what was known by Laennec? Virchow and Niemeyer admit miliary tubercle; all the difference, then, is in the consideration of what Laennec called yellow tubercle, and modern pathologists call caseous metamorphosis.

As earnest physicians, seeking only the truth, and the best interests of our patients, we will not follow, blindly, theories projected either by Laennec or the modern pathologist. The great benefit Laennec has conferred upon the world is a clear and certain diagnosis of phthisis at its earliest commencement, as well as in each stage of its course, either to a fatal end or to arrest of progress and possible repair.

There may be differences of opinion as to pathological changes, and in the present progressing condition of our knowledge, this must be so till perfection has been reached. There may be differences as to the best therapeutical means to be used for cure, and each may have measurable success looking to the same end; and the same with prophylaxis. But to honest inquirers, there can be no differences of opinion as to the value of early recognition of morbid structural changes in the lungs, so that whatever is to be done may be done in time.

Is there a pretubercular state, or, for the sake of argument, a prephthisical state?

Dr. Edward Smith has gone particularly into this question, and I agree with him in his general hypothesis; but if I understand him rightly, most of the cases he describes as pretubercular are already tubercular, that is, there is already a deposit of "materies morbi" in the lung structure, that, if not properly managed, will end in structural death of the surrounding tissues.

The expert ear alone can recognize this fact with certainty, and yet the rational signs are almost unmistakable. The history of the patient will throw much light on the subject, and to make this available we must be alive to the value of remote or predisposing causes.

Nearly all observers have recognized the fact of inherited tendencies. Children of phthisical families are more liable to the disease, under depressing circumstances, than those not phthisical. There are many exceptions to this rule, but they do not invalidate it.

It is also known from experience that depressing agencies and conditions are liable to be followed by phthisis, especially when there is an inherited tendency. Want of food, or improper food—either non-supporting or over-stimulating—bad air, depressing emotions from any cause, exhaustion from study or mental work, confinement in dark rooms, employments requiring positions of the body interfering with expansion of the lungs, pleuritic adhesions, preventing proper aeration of the blood and causing continued systematic irritation and functional disturbance—I believe this is a frequent and often overlooked cause, and a remedial one—suppression of the menses in certain cases, excessive venery or self-abuse, or any cause or any state which depresses the organic life, is apt to induce phthisis, more especially when there is a family tendency.

These facts are corroborative of the doctrine of tubercle as the first morbific presence. Virchow describes it as the meanest of animal products, and Dr. Clark long ago described it as having but little life, and rapidly going through morbid changes; and all history of it shows it as a neoplasm of poverty which takes advantage of a lowered state of the organic life to make its appearance. From knowing these facts we have the rational prophylaxis to avoid tubercle or prevent destructive change; to keep the system above par by means and conditions opposite to the recognized causes of depression. Out-door exercise and regular vigorous exertion, proper food in proper kind and quantity, and frequent expansion of the chest and forcible dilatation of the lungs in every part, change of air and food, freedom from care, with pleasing occupation, is rational prophylaxis, and useful in treatment. Medicines that support and corroborate the organic life of the body, relieving the body of depressing agents or causes, by improving the digestion by whatever means, is the treatment we have learned from experience. Is this baneful, as Niemeyer states the prophylaxis and treatment based on Laennec's views to be? Has not experience proved it to be right, and that the proper management of early cases either with or without inherited tendencies is eminently successful?

In conclusion, the doctrine of Niemeyer will not bear close examination, for it is false in fact and dangerous in practice. For mere theory it counsels us to throw away the result of fifty years of valuable experience of many observers, and to leave the progressive system which is leading us year by year to better and better results, and to go back again to the opinions and practices of a system already proved to be unsuccessful in practice, merely to indulge a whim of opposition to Laennec.

IV. Remarks by Wm. M. Chamberlain, M.D.

Without any previous intention of speaking on this subject, I will, for a moment, call attention to the radical change in our opinions, not only as to pulmonary phthisis, but as to almost every form of disease to which the views presented and accepted by Dr. Draper conduct us.

In each of his papers he attaches great weight to the inoculation-experiments of Waldenburg, Clark, Sanderson, Fox, and others.

According to these observers, the introduction into the areolar tissue, not only of morbid animal products,

but of mineral and vegetable substances and chemical compounds, results, with surprising constancy, in the production of tubercles in the lungs and other internal organs.

Thirty-four out of one hundred and four inoculations made by Waldenburg, of the most diverse, and in some cases the most innocent, substances, are said to have been followed by tuberculosis.

I do not recognize in these inoculations anything differing from the practice of vaccination or hypodermic medication, or the use of a seton, or the innumerable test inoculations of the products of constitutional syphilis made by Ricord, which I have personally repeated in hundreds of instances.

From this point of view what is to be said of Prof. Boeck and Auzias Turenne?

It is a new and demoralizing view of our responsibilities, if, with every third repetition of these acts, we have set up tubercular phthisis.

Moreover, these experiments are forced, not without hesitation it appears, to say that any and every form of inflammation of the skin and mucous surfaces, or of the connective and glandular tissues beneath them, are, in alarming degree, likely to end in tuberculosis of the internal organs.

When we consider the series of injuries, exciting more or less local suppuration, and the forever-recurring catarrhs of one or another mucous membrane, to which we have been subject from our youth up, it is matter for wonder that we are any of us here to listen to this discussion.

These observers are in conflict among themselves; Waldenburg and Fox assert what Villemin denies.

These facts, if they are facts, are broad, simple, and palpable, requiring no recondite methods for their detection. It is hardly to be credited that they should have escaped observation so long. They seem in conflict with the vast aggregate and common experience of the profession, and it is much more easy to my mind to believe that there is some fallacy lurking in them, than to accept them in the sense in which they are propounded.

Dr. Draper stated, in reply to Dr. Chamberlain, that there were marked distinctions between the inoculation experiments which produced artificial tuberculosis and the practice of vaccination, of hypodermic medication, and the inoculation of syphilis. In the former, the substances inoculated all presented a common physical property, namely, the presence of minute corpuscular elements or purely divided solid matters. In the latter, the materials inoculated are either a virus which cannot be demonstrated by the microscope or chemical analysis, or a medicament which is held in solution and is directly absorbed into the vascular or lymphatic circulation. It is true that where vaccination is practised with the crust, the conditions might be regarded as the same that are presented in the tubercle inoculations; and Niemeyer is disposed to question the propriety of vaccination in weakly children, on the ground that it may give rise to tuberculosis. In regard to the objection that setons are often used, and abscesses and tegumentary inflammations are of common occurrence without the sequences which were observed in the tubercle inoculations, and that therefore the explanation which has been given of the production of tubercle by a resorptive process is not tenable, we can only say, that the explanation is the best that can be given at present, and that the objections to it would be equally sound if made against the ordinary theory of pyæmia.

Dr. Draper further remarked, in regard to Dr. Leaming's paper, that the Doctor seemed to exhibit much the same sort of animus towards Niemeyer that he charged Niemeyer with entertaining towards Laennec. He thought it hardly fair to charge Niemeyer with a spirit of partisan opposition in matters of science, especially as the views which he expounds in his masterly work on the Theory and Practice of Medicine are based upon the most recent discoveries in pathology, and upon a large personal experience. In regard to Niemeyer's doctrines of the relation of pulmonary hemorrhage to phthisis, Dr. Leaming certainly does Niemeyer injustice in saying that his views upon this subject have no other foundation than pure dogmatic assertion. Niemeyer, in his monograph on pulmonary phthisis, cites some striking cases in support of his view that hemorrhage is sometimes the antecedent of pulmonary phthisis. The physical evidence upon which Dr. Leaming lays so much stress, as proving in his own experience that a pulmonary lesion can always be found in cases of hæmoptysis to account for the hemorrhage, is certainly capable of a different explanation from the one he would give. The presence of blood in the bronchial tubes and pulmonary alveoli, must modify the normal physical conditions, and might easily give rise to the evidences of consolidation and the presence of râles, which Dr. Leaming would consider signs of previous disease. That this is a reasonable hypothesis is rendered more probable by the fact, which all clinical observers must admit, that these signs are often transient and disappear with the recovery of the patient.

He remarked, in conclusion, that the value of physical diagnosis in phthisis is often exaggerated. Tubercles, in their isolated form, are not always revealed by physical signs, as experience in acute miliary tuberculosis has often demonstrated. The so-called deposits of tubercle which are discovered by physical signs, are simply localized condensations of lung tissue produced by a variety of causes, so that it is as irrational to attempt to diagnosticate tuberculosis in its early stages by physical signs alone, as it would be to determine the nature of a cutaneous disease solely by the appearances of the lesion.

On motion, the Academy adjourned.

Original Communications.

CASE OF ERECTILE TUMOR CURED BY ELECTROLYSIS.

By R. P. LINCOLN, M.D.
NEW YORK.

Gen. K——, aged 33 years; weight about 135 pounds; light complexion; nervous and excitable temperament; has never suffered from sickness, except that consequent upon wounds received while in high and active command in the army during our late war, and from which he quickly and completely recovered. After the close of the war he engaged extensively in public speaking, and to this he attributes his present trouble.

In April, 1869, immediately after a special effort at public speaking, he experienced a pain in the neck where there is now a tumor; this continued constantly for a few days when it remitted, to be reproduced by exercise or much speaking. Six weeks later he discovered a tumor, which was then quite small. In December, the tumor having increased in size from the first, he resorted to a system of water treatment, sulphur baths, cathartics, and tincture of iodine locally, till he could not walk from weakness. This exhausting process so much reduced the tumor that it was not

noticeable, but it reappeared as he regained his former strength. Last February he again resorted to treatment—viz., ice constantly applied to the tumor, leeches to the anus, mustard to the feet, and powerful cathartics repeated twice a day. After two weeks of such treatment he was again so much reduced that he could not speak from weakness, but the result was the same as before.

On the night of July 4th, he gave a public reception, the excitement of which caused so great an enlargement of the tumor that he was obliged to withdraw on account of the severe pain, sense of suffocation, and loss of voice; for three days, during which death seemed imminent, these symptoms persisted, notwithstanding every effort of the attending physicians, when they finally yielded to the same remedies that had succeeded before. The increasing frequency of these severe attacks, and his alarm at the increase in the amount of his constant suffering and the size of the tumor itself, compelled him to resign his position as Minister to a foreign Court.

On examination with the neck completely exposed there was presented on its left side a tumor occupying the antero-inferior portion of the region defined by the sterno-cleido-mastoid and trapezius muscles and the clavicle. It was uniformly rounded in shape, two inches in diameter, and at its apex rose five-eighths of an inch above the natural contour of the neck. The sterno-cleido-mastoid muscle was more prominent on this side than on the other, and the trachea was crowded one-half of an inch to the right of the median line. To manipulation the tumor was elastic and readily compressible, but when pressure was removed it immediately resumed its former size and shape. The tumor possessed no pulsation of its own; there was transmitted pulsation from the carotid beneath. Pressure applied to any one spot would neither increase nor diminish its size. It was well defined superiorly and posteriorly, but inferiorly it extended somewhat below and behind the clavicle, while anteriorly it embraced the edge of the sterno-cleido-mastoid at its lower quarter. The integument was of normal appearance and entirely free from the tumor. During the act of swallowing it moved synchronously with the trachea, but not quite to the same extent. The whole size of the growth seemed to be as large as a large goose's egg. Anything that interfered with the circulation, as indigestion, or when it was accelerated by the emotions or by exercise more active than usual, it might be increased to twice its usual size. If he held his breath and at the same time made an expulsive effort the tumor would become immediately distended, as well as the veins of the neck and face. If he lay with his face down, the same condition presented. If from any cause the size of the growth was temporarily increased, he suffered much pain, which often extended up the neck and to the head, and at the same time he experienced a sense of suffocation and would occasionally lose his voice. The excitement of delivering an address would induce these same symptoms to such a degree that he was forced to decline every effort of the kind.

The growth was diagnosticated as venous erectile and its treatment by electrolysis recommended. The patient was advised to consult Dr. W. A. Hammond, who confirmed the diagnosis and approved the recommendation.

September 30th.—After many preliminary experiments I performed the following operation, using a battery* devised by my associate, Dr. L. F. Sass, who shared with me the responsibility of the case. There were also present Drs. W. A. Hammond and C. E. Hackley, who kindly rendered assistance.

The patient having been chloroformized, I introduced four gilded steel needles, insulated to one-half or three-fourths of an inch from their points, into the four quarters of the tumor, the two upper being one and one-fourth inch apart and one inch above the lower, which were one inch apart. The two inner needles were connected with the subdivided anode, and the two outer with the subdivided cathode, and ten elements of the battery, which was working with a weak current, connected within a few moments, and gradually the power of the battery was increased to its maximum, and the number of elements increased to fifteen. At the expiration of fifteen minutes the two lower needles were disengaged from the current, thus concentrating the whole force upon the two upper; at the expiration of fifteen minutes more the needles were removed.

During the operation all the prominences of the tumor disappeared, and a delicate examination detected a hard mass in its place. Not a drop of blood escaped on the removal of the needles. The skin over the tumor presented a bright blush, and the trachea had returned towards its proper position.

Quiet was enjoined upon the patient, and the only application was a cold-water compress. The soreness, which was considerable after the operation, had so far passed away that at the end of three days he was walking about his room, and on the fifth day he left the city, relieved from all unpleasant symptoms and positive in his own mind that he was entirely well. The neck at that time presented no tumor, and the trachea had returned to its normal position.

October 10th.—Patient presented himself for examination. There was no tendency to a reappearance of the tumor; on the contrary, the induration in the neck was steadily diminishing in size.

October 22d.—The following is an extract from a letter from the patient, who had already made several addresses: . . . . "I am feeling very well and there is nothing to indicate anything like a recurrence of my malady."

* A full description of this battery will appear in a future number of this journal.

Progress of Medical Science.

NON-OVARIAN MENSTRUATION.—Dr. A. Reeves Jackson, Chicago, Ill. (*The Chicago Med. Journal*), narrates 8 cases of non-ovarian menstruation, which Spencer Wells has proposed to distinguish from menstruation by the terms "Uterine Epistaxis," or "Metrostaxis." If credence is to be given to the prevailing theories of menstruation, it seems to be admitted that the presence of the ovaries and the process of ovulation are not the *only* things necessary to menstruation, or the menstrual molimen; that the lining membrane of the cavity of the uterus is not the *only* source of the menstrual discharge; and that the "ovulation" theory must be either materially modified or else discarded as not sufficient to account for all the phenomena.

THE FIRST RECORDED CASE OF A WOUND OF THE PERICARDIUM.—The first wound of this character dates from the time of Benivenis (who died in 1503), and Cardenas, who, in 1501, recorded a reliable case of cure following a wound of the pericardium, with loss of substance. A case of penetrating wound of the heart was first described, with a microscopic examination, by Ambrose Paré.

FIVE HERMAPHRODITES.—Dr. B. Rush Bateman, of Cumberland County, New Jersey (*Trans. Med. Soc. of N. J.*), was present at five successive births in one family, where each child was a hermaphrodite, partly composed of both sexes, especially the genital organs. In every case there was a penis and vagina, in two of which there was a sac on each side of the vagina externally, with a testicle in each. It was exceedingly difficult to classify the sex in such cases. In one case, the sexes were so well defined, that it was finally concluded to class it with the males; it was called Charles. As it grew older it wanted a doll, needle, and thread; its name was then changed to Charlotte. She is now living and healthy, and about thirty years old. Her features are coarse, voice more masculine than otherwise; but she is smart and active, and remarkable for her sagacity at housewifery; does not mix with either sex to any extent.

All of the five were healthy children, and lived to grow to maturity; all are now living but two. One was married, but he never had any issue.

BROMIDE OF POTASSIUM IN LEUCORRHŒA.—Dr. A. H. Kinnear, Metamora, Illinois (*Chic. Med. Journ.*), has given, with success, in twelve marked cases of vaginal or uterine leucorrhœa, none of which were of less than six months' standing, bromide of potassium. The majority of the cases yielded to the treatment in four weeks. He has observed two effects from the use of this drug: the alterative and nervo-sedative.

A REMEDY FOR ASTHMA.—Dr. James S. Bailey, of Albany, says:—Having during the last fifteen years prescribed many of the remedies mentioned with indifferent and uncertain success, after much careful study I have prepared the following formulary, which has, during more than half this period, acted to my entire satisfaction. I now place it at the disposal of the profession, hoping it may meet with the same success in their hands as mine, in relieving the distress of this unfortunate class of sufferers.

It is as follows:—

℞. Syrup of tar compound.. ℥ iv.
Sulphuric ether..... ℥ ii.
Pulv. gum acacia..... ʒ vi. M.

Take one teaspoonful every two or three hours until relieved. Oftentimes two or three doses are quite sufficient to relieve an aggravated attack of spasmodic asthma.

As the syrup of tar comp. is my own preparation and not pharmaceutical, it is necessary to give the formulary for its preparation, which is as follows:—

℞. Picis liquidæ..... ℥ iv.
Scillæ acet.....Oj.
Antim. et potass. tart..gr. xvi.
Magnesiæ carb..... ℥ ss.
Sacch. albi..... ℥ xxx.
Sulph. ether,
Spts. vini rectificati, āā..f. ℥ j.

Mix the tar and carb. magnesia intimately in a mortar, adding the alcohol first and then the ether, then add the acet. scillæ and throw the whole upon a stout filter. Having added sufficient acet. scillæ (if may be) to make the filtered liquid measure Oj., proceed to make the syrup by the usual U. S. P. formulary, taking care to apply a gentle heat. Lastly, strain through flannel and add the tart. antimonii in solution.

After the paroxysm is relieved the patient is left in a relaxed and debilitated condition; it is then necessary to resort to a tonic course of treatment. A generous diet, with simple bitters or some mild preparation of iron, is generally sufficient to restore the system to its accustomed health.

TREATMENT OF GONORRHŒA WITH TANNIN AND GLYCERINE.—Dr. Schuster states that tannin mixed with glycerine at first forms a soft, waxy substance, which soon becomes hard and brown, and melts in a moist atmosphere at the temperature of the body. Dr. Schuster has formed small pencils of this compound, which he inserts into the urethra of patients suffering from gonorrhœa. He has found the treatment by means of caustic injections (the abortive method) frequently to fail, and that it occasionally produces violent pain, inflammation, and hemorrhage. On the other hand, the treatment with slightly astringent solutions cures the gonorrhœa within a period varying from four to seven weeks, but is often followed by a troublesome gleet. The tannin-glycerine rods employed by Dr. Schuster are from three to four inches in length, well rounded at the extremities, and consist of thirty grains of tannin, one grain of powdered opium, and a sufficient quantity of glycerine to form a pastille. These rods are hard in winter and soft in summer. Before their introduction, they should be dipped in warm water. They are to be left from five to ten minutes in the urethra, and then withdrawn. As a rule they produce no pain. If, however, they be left in for an hour or for a night, more or less pain is caused, and this appears to be due to a combination occurring between the tannin and the mucus or pus, which becomes hard and acts like a foreign body. Dr. Schuster has had no case of orchitis following the use of these pencils, though he has thought it advisable to recommend the employment of a suspensory bandage, nor has he noticed any irritation of the bladder or prostate. In cases of gleet, a rod may be left in for a few minutes, and a speedy cure usually results.—*Lancet.*

AMMONIA HYPODERMICALLY IN COLLAPSE FROM UTERINE HEMORRHAGE.—Dr. E. G. Wake (*Richmond and Louisville Med. Journ.*) reports a case of collapse from the above cause, in which the pulse was not felt at the wrist for more than an hour. In his eagerness to apply a powerful remedy, he injected a few minims of strong liquor ammonia over the sternum. The operation was repeated three other times upon other parts of the body, from 10 to 20 minims being used at each injection. The patient rallied immediately and made a good recovery. Four frightful sores followed the treatment.

STARCH, GLYCERINE, AND CARBOLIC ACID is an excellent preparation for healing ulcers and for promoting healthy granulations on wounded surfaces. It is made by heating the glycerine to a boiling temperature, then adding the starch in fine powder, slowly—stirring the mixture for a few minutes or until it is brought to the consistency of a soft paste. Then allow it to cool, after which add a small quantity of carbolic acid, and mix thoroughly.—*North-western Med. and Surg. Journ.*

THE SYPHON INSTEAD OF THE STOMACH PUMP.—Dr. J. T. Hodgen (*St. Louis Med. Journ.*), instead of the ordinary stomach pump or a Davidson's syringe attached to a gum elastic catheter, uses the following apparatus: he attaches four feet of rubber tubing to a stomach tube. Fill both with water by simply dipping it in the liquid end first, then, compressing the elastic tube between the fingers to keep the fluid from running out, introduce the stomach-tube, lower the outer end of the elastic tube, and the contents will pour out as readily as from an open vessel. When the fluid ceases to flow, dip the outer end of the tube beneath the surface of the water, elevate the vessel containing it, and the stomach is soon filled; lower again the outer end of the tube and the stomach is again emptied. This may be repeated as often as necessary.

Iodized Milk.—It is well known that milk takes up iodine, disguising its taste, smell, and color completely; since iodine is an antiseptic, iodized milk keeps for some time. Dr. Hagar calls attention to this fact, and suggests that this, perhaps, is the mildest form of administering iodine. Its therapeutical effect seems to be equal only to about one-fifth of the iodine. He also thinks that iodized milk will soon be a favorite form of administering iodine, and suggests the following mode of preparation: Iodine 1 part, dissolved in 10 parts of alcohol, with 90 parts of fresh warm cow's milk.—*New York Medical Journal.*

Odontalgia.—Dr. H. T. Reynolds writes to the *Phil. Medical News* as follows: "For eighteen months I have been using acetate of lead for toothache. I find it to act better than any of the numerous remedies proposed in the books, and in cases in which it is applicable the relief is instantaneous. Let the patient apply one or two grains to the cavity and then spit it out. It fails in fewer cases than any remedy I have tried."

Veratrum Viride as an Antidote to Opium.—Dr. E. H. Sholl communicates (*Phil. Med. & Surg. Rep.*) a case of poisoning by morphia, which was cured by veratrum. The patient, a negro, aged fifteen years, had typhoid fever, and took an overdose of morphia, which had been prescribed for hiccup. It was followed by all the symptoms of poisoning by this drug. Gtts. xviij. of Norwood's tincture were administered, with two ounces of brandy. In an hour all the symptoms of poisoning had vanished.

Congenital Gangrene.—Dr. J. R. Bratton (*Richmond & Louisville Med. Jour.*) presents an interesting case of this disease, which came under his observation. A lady, about twenty-five years of age, was delivered, after a natural labor of three hours' duration, of a well-developed female child, healthy in all respects, except the left hand and forearm, which presented the following condition. Upon the palmar and dorsal aspect of the hand, as well as the flexor and extensor surfaces of the forearm, about its middle third, were patches of skin and subjacent cellular tissue, irregular in form, and about an inch or more in diameter, in a gangrenous condition. Those portions of the skin between the patches on the hand and those on the forearm were in an erysipelatous condition, as well as that portion of the integument extending from the patches on the arm to the middle third of the humerus. The child was applied to a healthy wet-nurse, and glycerine and carbolic acid lotion applied to the gangrenous surfaces. In a few days the dark livid surfaces cleaned off, leaving healthy granulating surfaces beneath. In course of time the surface was entirely healed.

A New Remedy for Asthma.—A writer in the *Amer. Practitioner* came into the presence of a polecat and the "offensive effluvia arising therefrom." He was at the time suffering from a severe paroxysm of asthma. He had been in the presence of the animal but a few moments when he was entirely relieved of the paroxysm. As soon as possible he procured the musk-bag of one of the animals, and prepared an alcoholic tincture. The scent of this never failed to avert promptly a paroxysm of the disease, and ultimately the remedy, or time, or both combined, effected a permanent cure.

Aphasia from a Shot Wound of the Head.—Dr. W. E. Whitehead, U.S.A., gives the history (*Pacific Med. & Surg. Jour.*) of a case of this kind, where the patient was found wounded by a large pistol ball, which entered the head at about three and three-quarter inches from the eyebrow of the right side, and an inch and a half from the median line. The track of the ball was from before, backwards, and towards the right side. The ball had lodged within the cavity of the skull. It could be traced with the little finger for two and a half inches. The patient could see well; pupils slightly dilated; hearing and taste perfect; no paralysis; deglutition normal. He, however, could make no audible sound, although he made every effort to do so. When wounded, the hemorrhage had been profuse, and during the examination considerable brain matter oozed out, as it did during the night following. The patient got out of notice, and his subsequent history is not known.

Belladonna in Cholera Morbus.—Dr. H. E. Whitehead having had occasion to treat several cases of severe attacks of cholera morbus, and having failed to relieve the first case with opium, ordered for the patient pills containing one-third to one-half a grain of the extract of belladonna; one to be taken every four hours. The first pill relieved the sense of constriction or knotty pain in the region of the umbilicus, and after the third pill the bowels were freely moved, although several purgative draughts had been taken previously without effect. After having taken two grains of the extract the patient rapidly recovered, with no constipation, headache, or unpleasant symptoms. The result in three other cases with the belladonna treatment was equally successful.—*Pacific Medical and Surgical Journal.*

Puerperal Fever Treated by Venous Injection of Ammonia.—Tyler Smith, as referred to in the *American Journal of Medical Sciences*, has treated and cured a desperate case of puerperal fever by injecting ammonia into the veins. He employed about seven minims, diluted with three times that quantity of water. Under this treatment the symptoms of uræmic poisoning disappeared.

Paraplegia from Atmospheric Pressure.—Dr. Louis Bauer reports to the *Chicago Med. Examiner* that many of the workmen engaged in building the Mississippi bridge at St. Louis, and working in an air chamber under water, at a pressure of sixty pounds to the square inch, were stricken down with paraplegia, and that several of them died with inflammation of the brain, cord, or membranes.

Veratrum Viride in Pneumonia.—Dr. T. M. Woodson, in the *American Practitioner*, strongly endorses the use of veratrum in pneumonia. He gives a history of four cases in which he used it in six or seven drop doses every three or four hours, with large doses of Dover's Powder, and sometimes calomel. Some of these cases were very severe, the pulse reaching 132, with the temperature 105°, and the respiration 30 or more. The veratrum brought down the pulse, promptly, sometimes with vomiting and purging, but safely, to from 55 to 70 per minute. The temperature and respiration were promptly reduced, and convalescence was speedily established. The veratrum works more kindly with opium, and these two agents he places at the head of all remedies for the active stage of pneumonia.

Bromide of Potassium in Children.—E. Montord-Martin, of Beaujon Hospital, France, shows the value of this drug in all cases of dentition, where there are aggravating symptoms, and it is improper to give opium. In sleeplessness of infants, in cough merely spasmodic, he gives it in three-fourth grain doses once or twice a day to children from three months to a year

old. In purely nervous cough it is equally indicated; but it should not be given in diarrhœa, as it increases the difficulty. In excessive erethism of any kind, and especially those cases of boys where there is almost constant erection of the penis, it works most happily. When administered to infants, the breast should be given immediately afterwards.

Treatment of Chorea.—The subjoined formulas are recommended by Dr. T. Curtis Smith, Middleport, Ohio (*Cincinnati Lancet and Observer*), in chorea, in conjunction with strong salt baths, attended with much friction:—

℞. Tr. actea racemosæ.....
Tr. hyoscyami..... } .....āā ℥ ij.
Syr. simplic.....

M. S. Tablespoonful every six hours; also

℞. Ferri sulphas.....ʒ iij.
Zinci sulph.....ʒ iss.
Quiniæ sulph.....ʒ j.

M. ft. pil. xx. S. One three times a day.

Ipecacuanha in Dysentery.—Drs. Wright, Mathieson, Gunsolas, and Walton, of the Montreal General Hospital, Canada (*Canada Medical Journal*), publish cases of acute dysentery successfully treated with large doses of ipecacuanha. In these cases strict injunctions were given to use the least possible amount of fluid during the twenty-four hours following admittance into the hospital. The ipecacuanha was given three times daily in powder, in doses of from ten to twenty grains.

An Excellent Aperient in Skin Affections.—Dr. McCall Anderson, of Glasgow (*Lancet*), recommends in skin diseases the well-known sulphate of magnesia and sulphuric-acid mixture, to which, if there is a gouty tendency, a little wine of colchicum, or, if anæmic, sulphate of iron may be added as follows: Sulphate of magnesia, three ounces; dilute sulphuric acid, an ounce and a half; sulphate of iron, three drachms; simple syrup, six ounces; syrup of ginger, one ounce; infusion of quassia to twenty-four ounces; a tablespoonful in water three times daily.

The Sounds of the Heart.—George Paton, M.D., Toronto, Canada (*The Dublin Quart. Journal*), arrives at the following conclusions respecting the sounds of the heart:—The first sound is produced by contraction of the ventricle and impulse of the aorta. It commences as the blood is propelled with force through the aortic foramen, and attains its intensity in the aorta, as the blood is thrown back against the aortic valves, and shuts them on the impulse being imparted to the wave. This sound is heard most distinctly in the denuded heart, over the semilunar valves, at the origin of the aorta, or a little above it.

The second sound depends on the contraction of the auricles, and is produced as they propel their blood with force through the auriculo-ventricular foramen into the ventricle during its dilatation.

It appears to follow the first sound as an immediate sequence, as it takes place so quickly after its completion, but it is the commencement of a new beat, and synchronous with the dilatation of the ventricle, and of course precedes the ventricular systole.

The second sound of the heart is produced by the force with which the blood is propelled by contraction of the auricle, through each auriculo-ventricular foramen, into the ventricles during their diastole.

A bruit sometimes attends one or both sounds, when the action of the heart is weak, and disappears when the action is strong—so that one cause of inorganic murmurs is the want of energy in the contraction of the auricles or ventricles, and whatever restores this removes the murmur.

He states in conclusion, that from the manner in which the first sound is produced, it can be perceived how a murmur connected with the contraction of the left or right ventricle is propagated along the aorta or pulmonary artery; a circumstance on which Dr. Hope laid great stress in determining to which side of the heart the murmur belonged.

Idiopathic Gangræna Genitalia in Infancy.—Dr. Jonathan W. Brooks, of Chicago, Ill. (*Chicago Med. Jour.*), records three cases of this fatal disease, which declared itself without apparent cause in perfectly healthy children; all but one were girls, and all between one and four years of age. These cases seem to have been induced by a septic poison *sui generis*. The two first cases were fatal. The third child is living, and if she recovers fully, it will be the first recovery he has seen from this disease.

An Enlarged Spleen.—Dr. John G. Day, University of Maryland Hospital (*Balt. Med. Journal*), mentions the case of a negro, aged 28, who had been very frequently the subject of bilious and intermittent fevers, and was admitted into the University of Maryland Hospital. The case was diagnosed as one of *enlarged spleen*, with the usual accompanying phenomena, and Dr. Chisolm suggested the removal of this organ; but the patient in moving along one of the hospital passages fell down a flight of steps, and died. An autopsy revealed the following condition:—The weight of the liver was seven pounds three-quarters. The spleen extended throughout the whole of the left side of the abdomen, reaching nearly to the pubes, also encroached on the right side for about two and a half inches beyond the median line. It was lobulated upon the right margin, the fissures being four in number, and from one to two inches in depth. This organ was adherent to the diaphragm. There were also attachments between other parts of the abdominal viscera. The weight of the spleen was nine pounds three-quarters; length, sixteen inches; greatest breadth, eleven and a half inches. Several beautiful casts were taken of the organ, and placed in the Museum of the University of Maryland.

A Fragment of Axe passed per Rectum.—Dr. Stevenson, of the *Cincinnati Academy of Medicine*, referred to an accident to a farmer's boy, who swallowed a fragment, 1¼ inches wide, of a new axe, which came off while chopping wood. Both corners were as sharp as a knife-blade. The piece of steel passed per rectum some three or four days afterwards, attended with pain and hemorrhage. The discharge was assisted by the hand.—*Cin. Lancet & Observer.*

Hæmorrhoids.—In recent cases of hæmorrhoids, Prof. Nathan R. Smith, of Baltimore, advocates this formula:—

℞. Sulphur lot. . . ℥ j.
Fol. sennæ pulv. . ʒ j.
Ol. fœnic. . . . gtt. xx.

M. ut f. pulv. S. Give a heaping teaspoonful every other night. The parts must be bathed three or four times a day with cold water, and especially after stool.

Rarity of Gunshot Wounds of the Heart.—Of 87,822 wounded in the American war, among which are 7,062 gunshot wounds of the thorax, 4,759 wounds of the thoracic walls, and 2,303 penetrating wounds of the chest, there were only recorded 4 cases of gunshot wounds of the heart.

THE MEDICAL RECORD.

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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MEDICAL MEN AS PUBLIC OFFICERS.

A PROMINENT and respected surgeon of this city, while giving advice to his class at the close of a lecture term, made the broad assertion that any medical man who interested himself in politics did so at the risk of damaging his professional reputation. The opinion was readily accepted by his hearers as orthodox, and, without inquiring into any reasons which the speaker might have had, was received as a ruling decision. The profession at large, for an equally unaccountable reason, have been, in this country at least, of the same way of thinking. The whys and wherefores have not, however, transpired, except that we allow the truth of an assertion too often made, that the individual members of the profession lack the necessary independence of opinion which is the legitimate offspring of individual conviction. As a body, we are so jealous of what we consider our purely professional prerogatives, that in our watchfulness to protect them we lose sight of every other interest. We foster this disposition to such an extent that we become morbidly sensitive, and in our great desire to shun "every appearance of evil," we grow timid in the contemplation of any innovation of the established beliefs and usages. It is enough for the majority to hear it asserted that this or that is wrong, to follow the general current of opinion without the least show of a resistance in the shape of a contrary belief.

We contend that there is no good reason why any and every physician should not interest himself enough in the political questions of the day, to protect his interests as a professional man. There can be no inconsistency in his becoming a politician in this sense, or in his consenting to become a candidate for an office, which, as an educated medical man, he may be fitted to fill. There is certainly enough to be accomplished in our interests to bring the expediency of legislation by medical men, to the serious consideration of the profession at large. There are certain points upon which the medica legislator only can express an intelligent and trustworthy opinion; certain protections, which, as a humanitarian, a scientist, and good citizen, he is eminently qualified to guarantee. It is not only his privilege so to do, but likewise his duty.

We have, from time to time, noted the good results that have attended the well-directed efforts of medical men who have held offices of trust. Although, in consequence of the general prejudice of the brotherhood against the policy of holding such positions, the number of medical men occupying them has been very small, we have had reason to appreciate their great usefulness. They have, with but very few exceptions, commanded the respect and gained the confidence of their associates, and their voices and influence have been proportionately great in stemming the tide of corruption, malfeasance, and quackery. In more than one instance have these medical men in our legislative halls used their influences for the good of the profession, directly, in a manner that no other individuals could. They have acted for the profession as only such can act who have an abiding interest in its present and future welfare. In a word, their brethren have had no occasion to be ashamed of their representatives. In view of these facts such gentlemen deserve more of their profession than a suspicion of being irregular, and as defiant violators of conventionality; more than this, they are entitled not only to countenance, but to hearty support. We see no reason why a good physician should, because of his being such, be a bad legislator; why, in his new sphere, he should not, by the use of this special knowledge, be of extra service to the community at large. We have had numerous examples of this fact in this country, and we can point to physicians who have during the last decade distinguished themselves in almost every department of government, civil and military; but in other civilized countries, in consequence of the liberality of professional sentiment, there is a much greater majority. Particularly is this the case in Great Britain. There, far from its being considered a disgrace to hold a public office, it is esteemed as an honor, which is eagerly sought by well-qualified men. There the profession not only recognize their power and rights, but make them felt. In every question pertaining to medicine, where legislation is necessary, the profession, as a body, are clamorous for their rights. In all purely scientific matters, in all reforms that are educational or sanitary, they really control public opinion. Their medical journals agitate the questions of reform, and discuss freely every measure that in any manner may concern them professionally. So much interest is taken in such matters by the medical men generally, that the opinions uttered by *The Lancet* (London), as the representative medical journal of the country, are so much respected even by laymen, that they are often quoted in parliamentary discussions, carrying with them an astonishing amount of weight and influence. It is for the very reason that the profession are so alive to their rights and interests that the authoritative ex-

pression of its opinions is so useful as a means to an end. The profession there has become by this means a power which politicians and wire-pullers prefer to conciliate rather than browbeat, and the least concession that can be made is the bestowal, as a matter of right, of all offices strictly medical. If their example be followed by us, the same results may be attained, and, as in their instance, must surely work for good.

The first step to be taken is to remove the conventional odium which attaches itself to the holding of political offices, and the manifestation of a reasonable interest in the success of such medical men as may from one motive or another consent to throw themselves upon our suffrages. There are certain public offices which should legitimately belong to the profession, and would be seized accordingly, were we to manifest less apathy in regard to the prospective incumbents. One of these offices is that of coroner. It is the exception rather than the rule that medical men ever hold them. To any one unacquainted with the amount of political corruption so rife in the metropolitan district, it would seem strange that any uneducated man should hold so high and important an office; but such is the fact. Instead of a properly qualified medical man as the incumbent, his rightful place is occupied generally by some political hack, who, per necessity alone, appoints a physician his deputy. These latter gentlemen are not only competent to attend to all the duties of their chiefs, but, in addition, perform the much more important ones of determining the causes of death. Under many circumstances the coroner, not being a medical man, may not only be a useless functionary, but an incumbrance to the ordinary course of justice. For instance, if any physician be arrested for supposed maltreatment of a case, the coroner, if he choose to act stubbornly by impanelling an ignorant jury, and refusing to acknowledge any peculiar circumstances connected with the alleged malpractice, may be the means of disgracing an innocent man, and procuring his lodgment in a State prison. There are cases of supposed maltreatment which, however apparent they may be as to intention of evil to ignorant jurymen, are perfectly clear to the contrary when submitted to the judgment of his peers. The requisite care in empanelling a jury of his peers in such cases is not often enough taken; but its necessity would be invariably appreciated by a medical man, if he were the principal with power, instead of a deputy without power.

When medical men have been coroners, we find them fully capable of performing their legal duties, while their strictly professional ones are absolutely indispensable. The same may be said with regard to the other offices which rightly belong to the profession, such, for instance, as those of Health Commissioners, Health Officers, Sanitary Inspectors, Registrars, etc., etc. In conclusion we reiterate the conviction that the proper performance of the functions that belong respectively to these offices, the physicians who may have been privileged to hold them have, as a rule, been more than ordnarily efficient, and have reflected credit upon their profession. The community have not been backward in appreciating such service, and if the profession had the courage to speak on its own behalf in the legislative halls and through the medical press, their endeavors to do good would be heartily indorsed. If we desire to obtain our rights and exercise our privileges, we must demand them on our own behalf before we can expect laymen and the community in general to become specially interested in the matter. We trust that opportunities may be granted in future for giving a practical turn to these remarks, by the course which the RECORD may take in speaking for these rights of the profession.

IN the present issue we have devoted a considerable space to the discussion on the Pathology of Tuberculosis before the Academy of Medicine, believing it to be a subject in which the profession at large are more than usually interested. As it is not yet completed we shall endeavor in future numbers to present the different views of several prominent members of this body.

Reviews and Notices of Books.

THE CELL DOCTRINE: Its History and Present State. For the Use of Students in Medicine and Dentistry. Also, a copious Bibliography of the subject. By JAMES TYSON, M.D., Lecturer on Microscopy in the University of Pennsylvania, and on Physiology in the Pennsylvania College of Dental Surgery; Fellow of the College of Physicians of Philadelphia, etc., etc. With a colored plate and other illustrations. Pp. 150. Philadelphia: Lindsay & Blakiston. 1870.

THIS manual is a useful and interesting digest of the views in former times and at present entertained by leading histologists in regard to the nature and functions of the ultimate structural element of all tissues; the so-called cell. The author traces the expansion of our knowledge historically, presenting in chronological order the names and opinions of the most famous contributors to this branch of science. His own views correspond closely with those of Prof. Beale. Schleiden and Schwann taught that of the four parts of the cell the nucleolus was the oldest, controlling the nucleus, which in turn determined the condition or behavior of the cell contents and cell wall. Modern histology reverses this order: showing that the cell wall is the oldest, and the nucleolus, when present, the youngest part of the structure.

Not the least important part of the book is the bibliographical list, which bears evidence of thoroughness in its compilation, and which will be of much service to any student of this subject.

The colored plate illustrates the theory of Beale, and is borrowed from his works. Certain other cuts, chiefly from Virchow, are intercalated with the text.

If we consider Dr. Tyson's book from an historical point of view alone, it will be found a very desirable addition to any medical library.

PHOTOGRAPHIC REVIEW OF MEDICINE AND SURGERY. A bi-monthly illustration of interesting cases, accompanied by notes. Edited by F. F. MAURY, M.D, and L. A. DUHRING, M D. No. 1, Vol. I., October, 1870. Published by J. B. Lippincott & Co., Philadelphia.

THE first number of this new journal contains four admirable photographs, illustrating multilocular hydatid tumor, meningocele, horny tumor, and keloid tumor. Each case is accompanied by descriptive notes and opinions, with some account of treatment and its results. The contributors to the present number are Prof. S. D. Gross, D. Hayes Agnew, W. M. Pancoast, and F. F. Maury. It is the intention of the authors to select only striking and characteristic cases for publication, and to present them in the highest style of photographic art. The general appearance of the journal is excellent, and it promises to become a valuable addition to medical literature, filling a new and important field.

THE PHYSICIAN'S PRESCRIPTION RECORD: Containing nearly Four Hundred Prescription Blanks, with Forms for Record of the Condition of the Patient and Copy of Prescription. Philadelphia: S. W. BUTLER, M.D. 1870. 12mo.

As its title indicates, this is little more than a blank book intended for the registry of the condition of the patient, etc. Each page is divided into three sections, the upper of which is arranged as a record of pulse, tongue, temperature, etc.; the middle section is the prescription blank, to be filled for the apothecary; while below is the copied prescription. The middle portion of the page only being torn out, the book is thus made to preserve its shape.

It is in some respects a copy of the Prescription and Clinic Record of Dr. E. Seguin of this city, being arranged on a somewhat different plan, which with some practitioners may give it a preference.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

STATED MEETING, OCT. 26, 1870.

DR. J. C. HUTCHISON, PRESIDENT, in the Chair.

(Continued from page 449.)

PECULIAR "PISTON SOUND" OF HEART, ETC.

DR. LOOMIS:—The specimens I have to present are the heart and lungs of a patient who died of pulmonary phthisis, on the 25th of the present month, in Bellevue Hospital. I present these specimens on account of the peculiar physical signs that existed some time previous to death. The patient was of African descent, 28 years of age, married, with no hereditary or acquired predisposition to disease,—had always been well, until a month before his admission into the hospital, at which time, after exposure, he began to cough, and suffered from pain in his chest. His sputa were mucopurulent from the first. He never had night sweats, but had exacerbations of fever in the evening,—lost flesh and strength rapidly, and suffered extremely from dyspnœa.

At the time of his admission he was greatly emaciated, and unable to get out of bed without assistance; at times delirious; had pain in his chest referable to præcordia; was easily agitated; tongue dry; pulse, 100; respirations, 40; temperature, 102.

On physical examination, inspection showed depression under both clavicles, most marked on the right side; chest expansion diminished equally on both sides, slight up and down movement in front; left scapula moves more than the right.

By palpation, vocal fremitus much increased in the right infra-clavicular region, and a peculiar thrill was communicated to the hand as it passed below the third rib. In the left infra-clavicular region, vocal fremitus was slightly increased; over the scapula it was also increased, but over the infra-scapular regions, on both sides, it was diminished.

On percussion, there was marked dulness over the right lung in front; there was slight dulness combined with extra resonance in spots over the same lung posteriorly. Extra resonance over the left lung behind and in front. Below the fourth rib in front, on the left side, the percussion note was tympanitic; this tympanitic resonance also extended over the area of normal præcordial dulness. The result of succussion was negative.

Auscultation revealed amphoric breathing, amphoric whisper and gurgles over the right lung anteriorly. Also a *peculiar sound, synchronous with the heart's action*, was heard all over the right side anteriorly; the point of maximum intensity of this sound was at the junction of the fourth rib with the sternum on the right side. It was a double, blowing sound, widely diffused in its area, and resembling that produced by the working of the piston-rod of a steam-engine; it was occasionally accompanied by a metallic click, which could be modified or removed by a change of position, or a cough.

On the left of the sternum, at the junction of the third costal cartilage, a slight systolic murmur was heard, transmitted upwards.

The apex beat of the heart was felt about 1½ inches inside of the right nipple, and on a line with it. The sounds, with the exception mentioned, seemed normal. There was also pulsation just below the ensiform cartilage.

Respiratory murmur over the right lung posteriorly was rude, and accompanied by large and small mucous râles. Over the left lung it was rude and exaggerated in front, and feeble behind.

The peculiar sound before mentioned, at times was so loud as to be heard several feet from the patient. It ceased entirely, at irregular intervals, for several minutes. During the interval the heart-sound could be distinctly heard.

On October 22d, at 10 A.M., the pulse was 130; respiration, 44; temperature, 101. *The piston-friction sound* already mentioned ceased this morning; occasionally it shows a tendency to return, ending either in a metallic click, or a single indistinct blow.

October 23d, the patient became wildly delirious. Pulse, 120; respiration, 44; temperature, 100; tongue brown and dry; subsultus. Patient gradually passed into a state of coma, and died at 3 P.M., October 25th.

Autopsy, twenty-four hours after death.—Brain and membranes normal, with the exception of slight pigmentation of the arachnoid in the vicinity of the vessels.

On the left side, the pleural cavity contains some air; the lung, however, was not compressed, and there was no evidence of inflammation of the pleura. The heart was found behind the sternum.

On the right side there was a small cavity, the size of an orange, situated partly in the upper and partly in the middle of the right lung. The walls of this cavity were formed on their inner or right side by lung tissue, and to a considerable extent by the inner surface of the pulmonary pleura, to which remnants of lung tissue were attached. The cavity contained air, and a little thick curdy material. A bronchus opened

into the upper part of the cavity. The cavity was situated directly over the pericardium.

In the upper lobe of the right lung there were small, cheesy pneumonias, and a cavity at its apex; throughout the whole lung there were points of fibrous induration; the bronchial tubes at many points were plugged up. In the lower lobe there were lobules of recent and cheesy pneumonia. Some of the bronchi contained pus, and others cheesy matter. At some points the walls of the tubes were also cheesy.

The left lung was congested and œdematous, with some spots, few in number, of recent pneumonias, having cheesy centres. In the upper lobe there were two spots of fibrous induration, of the granular form. The bronchi going to these spots were plugged up by cheesy and cretaceous matter. Other viscera were normal.

There were three views as to the mode of the production of this piston-friction sound: 1st, that it was a modified cardiac murmur; 2d, that it was a pleuro-pericardiac friction sound; 3d, that it was produced in the cavity or the lining by the rubbing of two surfaces of cavity together, or the forcing air out of cavity by the heart's action against the walls of the cavity.

Dr. Jacobi was inclined to think that the sound referred to was occasioned by the friction of the roughened outer wall of the cavity against the pleura.

Dr. Loomis did not think Dr. Jacobi's view was tenable, inasmuch as the walls of the cavity were very rigid in the first place, and that it was hardly supposable that the cavity could be so entirely empty at such times as the peculiar sound was heard.

Dr. Jacobi did not think that the entire emptying of the cavity was necessary.

Dr. Flint gave his explanation of the sound in the cavity thus: A tuberculous cavity was situated close to the right side of the heart, and, with the systolic and diastolic movements, rubbing of the roughened inner surface of the cavity took place. I have reported precisely such a case in the second edition of my work on the heart—under the heading Cardiac Pleural Friction Murmur. I supposed that case to be unique.

The Society then adjourned.

Stated Meeting, November 9, 1870.

Dr. J. C. Hutchison, President, in the Chair.

In the absence of the Secretary, Dr. R. E. Van Gieson was appointed Secretary "pro tem.," and made the following report:—

GASTRITIS CAUSED BY OVER-DOSE OF TR. VERATRUM VIRIDE.

Dr. Finnell presented a portion of the stomach removed from a lady sixty years of age. The mucous membrane was highly injected, showing evidence of intense gastritis.

The lady was attended by a homœopathist residing in Thirty-fourth street. He found her suffering from hepatic distress, accompanied by occasional vomiting of bilious matter. His prescription for this trouble was ten drops of Norwood's Tincture of veratrum viride, to be given once every three hours. The woman, though vomiting terribly after each dose, continued until six doses were all taken. After taking the sixth dose she sank and died from exhaustion. This is what is termed homœopathic treatment. The death was undoubtedly caused by the large doses of veratrum viride inducing fatal acute gastritis.

Dr. Finnell would like to inquire if any one would give the homœopathic dose of ten drops of veratrum viride for hepatic congestion.

Dr. Hutchison stated that within a month he had given half-drachm doses of Squibb's fluid extract of veratrum viride in a case of puerperal convulsions until three drachms in all were taken, and the woman recovered. He had every reason to believe that she recovered in consequence of taking this remedy. This result coincides with the experience of some of his medical friends who have also used this remedy in puerperal convulsions.

Dr. Finnell.—Five drops will, in the majority of cases, produce an alarming lowering of the pulse.

Dr. Hutchison had seen nearly fatal results with five drop doses, but in this case I advised the remedy in large doses, and the woman got well; whether it was a case of "*post hoc ergo propter hoc*" he could not say, but thought the recovery was due to the remedy.

UTERUS FROM CASE OF PUERPERAL CONVULSIONS.

The second specimen consists of a uterus and appendages taken from the body of a young woman aged eighteen years, who had arrived at the full term of pregnancy. She was confined in a most infamous den in Chatham street, No. 94, where poor unfortunates are taken in day by day to get rid of their troubles, and then sent away. This girl entered the place and remained three days, during which time she had puerperal convulsions, and died at the end of the third day. Dr. Finnell saw her shortly before she died: she was then moribund, and nothing in the way of treatment could be done. The uterus is apparently healthy. The walls are from one-half to three-quarters of an inch in thickness. There is no abrasion or laceration of the os. The death resulted from the convulsions alone, caused by uræmic poisoning, as the body was œdematous in the highest degree. Both ovaries show the beginning of ovarian cyst, and on the left side the Fallopian tube is involved.

The place where this unfortunate girl died is one of the lowest dens which New York City contains. Face to face in a room not larger than twelve by sixteen feet, large-bellied women were waiting for their turn to come next. What becomes of the children they do not know. In one instance the child had been choked a little while, and in that way was gotten rid of. It is said that the children are sent to the foundling hospital, but probably but few of them reach there. During the whole time of this girl's illness nothing whatever was done. It is reasonable to suppose that had she been properly treated she might have been saved.

Dr. Finnell, being one of the jury to try the Doctor of this establishment, would like to know if this woman was not grossly neglected, and whether a charge of criminal neglect and carelessness could not be brought in?

Dr. Hutchison. — There can be no two opinions with regard to that.

UNDISCOVERED FRACTURE OF SKULL.

Dr. Flint presented a brain with the following history from the Hospital records:—

Bellevue Hospital, Nov. 4, 1870.

Unknown man brought in by ambulance. Nothing known of his history; found insensible on the street. Age about 30, medium size, five feet five inches high; moderately nourished. The left side of the thorax diminished in size. Retracted approximation of the ribs. Marked lateral curvature of the spine, convexity towards right side; left side four inches smaller than right.

On admission, patient is in a comatose condition. Pulse 80, and full; temperature 101; skin moist, facies

dull, pupils slightly contracted and respondent. No external mark of injury. Scalp thoroughly examined, nothing found. Breath loaded with whiskey fumes. Respiration 24, and somewhat labored. Physical examination shows nothing, except a fine dry friction sound on the left side posteriorly. Urine normal, heart normal. Patient partially aroused with an effort and rolls about, throwing his hands up to his head until let alone, when he again becomes quiet. Evening—Pulse 76, still full; temperature 101. Somewhat more delirious than he was this morning; mutters incoherently. Nov. 5.—This morning is much wilder, has to be restrained in bed; temperature 101, pulse 72. Pupils somewhat dilated and respondent; respiration 30, but easy.

Died at 4.30 P.M., very delirious.

Autopsy Nov. 9. Some hemorrhage in tissue of the scalp. There is fracture of the skull, extending from left part of the lambdoidal suture, through the occipital bone to the jugular fossa. Firm clotted blood in the lateral sinus, near point of termination in jugular vein. Cavity of arachnoid on right side contains a large amount of clotted blood adherent to middle lobe of brain, extending from base half way up the convexity. The pia mater at this point is torn, and brain is lacerated. Laceration of anterior lobe at the base. Some blood in the meshes of the pia mater on the right side. Thickening of the pia mater on both sides, along longitudinal sinus, with numerous pacchionian bodies. The veins of pia mater in the left side are very much congested. Left lung firmly adherent to chest wall, lung compressed. Right lung normal, as also the liver, spleen, and kidneys.

DR. FLINT saw the patient not long after admission, and supposed from the odor of his breath, and the absence of certain other conditions occasioning coma, that the case was one of alcoholism. He was in doubt whether the increased temperature was in favor or against this diagnosis. The fracture has probably caused meningitis in the second stage, as there is a little lymph effused beneath the arachnoid. The interest of the case lies in the fact that a fracture of the skull existed, which after examination by the house surgeon was not discovered; and the practical lesson is, that we should examine the skull very carefully in cases of coma unattended with previous history.

DR. BIBBINS related a similar case, where the temporal bone was fractured, occurring in his own practice, and thought that it was an easy matter to overlook a cranial fracture. In this case the diagnosis was rendered more difficult from the fact that the intellect was unimpaired until shortly before death.

DR. FINNELL stated that such cases are not unfrequently revealed in coroners' examinations.

CANCEROUS TUMOR.

DR. VAN GIESON presented the stomach, liver, pancreas, and spleen, all taken from the same subject, and all more or less involved in carcinomatous disease. The specimen he considered chiefly interesting on account of the obscurity in diagnosis. He first saw the patient in the early part of October, and found as the main objective point of interest a large pulsatile tumor in the epigastric region. The enlargement seemed directly on the median line, extending downwards to the umbilicus, and on either side about two inches. The impulse was remarkably strong, and the unaided ear could easily detect a very loud and distinct systolic murmur. Lateral pulsation was also distinct. Tolerably firm pressure upon the tumor produced a feeling of nausea, but no pain. The patient's general condition at this time was anæmic and suggestive of the cancerous cachexia; but the physical signs seemed to point very strongly toward abdominal aneurism. During the whole of his illness the almost entire absence of pain was a noteworthy fact. At no time was it ever necessary to give an opiate to secure rest or freedom from pain. On the 12th of October a consultation was held with Dr. Ford of Brooklyn, the family physician, and the growth very thoroughly examined. At this time it was found that change in position modified the strength of the impulse, and diminished the distinctness of the murmur. The murmur and impulse, when the patient was made to sit up and lean forward, almost entirely disappeared; by grasping the tumor and lifting it forward, impulse and murmur seemed entirely gone. At this time the patient's stomach was extremely intolerant of food, but vomiting was not attended nor caused by pain. The vomiting appeared more like simple regurgitation. The evidence between carcinoma and aneurism at this time seemed pretty evenly balanced. The result of the consultation was in accordance with the evidence. Dr. Van Gieson was rather in favor of aneurism or omental cancer, while Dr. Ford felt certain of cancer of the stomach; both agreed in excluding the liver from forming a part of the tumor.

On the 23d instant Dr. Flint was called in consultation, and the patient again examined. During the interval the growth had enlarged considerably, and the impulse was somewhat stronger than before.

DR. FLINT in his examination elicited a new point in the diagnosis which previously had not been present, or else had escaped our notice, and that was *a distinct second murmur*. He gave as his opinion that the evidence derived from the physical signs strongly preponderated in favor of aneurism.

The patient survived until the 3d of November, and then sank quietly from asthenia. At the post-mortem examination, the left lobe of the liver was found considerably enlarged, and the seat of an abscess near the gall-bladder. At this point the stomach was adherent to the liver, and through the gastric walls was an opening about the size of a large penny, through which the contents of the abscess had partially escaped into the stomach. The stomach itself is the seat of very extensive carcinomatous deposit in all stages of degeneration, from the hardness of the initial change to the pultaceous softening and purulent discharge denoting complete disorganization. The right lobe of the liver is also enlarged, and the seat of scattered spots of secondary deposit. The abscess of the left lobe is evidently the direct result of the breaking down of a large nodule of cancerous deposit.

The spleen has upon its surface two patches looking somewhat like a cicatrix. The abdominal aorta was carefully examined, and found to be entirely free from disease or adhesions.

The points of interest in this case are, first, the almost total absence of pain during the whole course of the disease; and, second, the existence of a second murmur, which, perhaps more than anything else, led Dr. Flint, after a most patient and thorough examination of the patient, to think that the evidence in favor of aneurism preponderated.

DETACHED PLACENTA.

DR. VAN GIESON presented a second specimen, consisting of a placenta showing marks of detachment near the centre and lateral border, with the following history.

Mary M——, æt. 32, the mother of two healthy children, was taken in labor at full term shortly after midnight on the morning of the 7th of Novem-

ber, 1870. On the preceding afternoon she had taken a moderate walk. The pains did not act as usual, but their character was not accurately determined, except to learn that they were feeble, insufficient, and attended with a peculiar feeling of uneasiness at the epigastrium.

At about 2 A.M., her attending physician was called and found her with a pulse of 135 to the minute, blanched features, great thirst, and with but very feeble expulsive pains.

At this time the external hemorrhage was but slight, and yet it was evident that the woman was in an alarming state of collapse. The os was now rigid, and of a size barely permitting the finger to enter the womb. The membranes were tense.

A physician living near by was now called in, and after a short consultation hemorrhage from detached placenta was diagnosed, and the membranes ruptured as the first step in the treatment. Ergot, which had already been given, was now administered freely and frequently, together with occasional large doses (teaspoonful) of laudanum. Although the head now descended, and seemed to fit against the rigid fibres of the os so accurately that leakage would appear to be impossible, yet the bleeding still continued,—slight between the feeble pains, but with very abundant gushes at each expulsive effort.

The situation at this juncture was discouraging in the extreme. Both physicians were reasonably certain of the diagnosis, fully appreciated the impending danger, and were yet powerless on account of the non-dilatation of the os.

Unable to introduce the forceps without danger of rending the uterus, they still continued to give ergot and laudanum in heroic and frequent doses; meanwhile the os very slowly yielded, while the fundus seemed to have a little more contractile force during the pains. At about 6.30 A.M. I was sent for, and arrived at the bedside at 7.30 A.M., some five hours after the probable beginning of the labor.

The woman had now but feeble pulsation at the wrists, the eyes were turned back, the face blanched, —in a word, she seemed entirely exsanguinated. The os was now sufficiently dilated to admit the cautious introduction of instruments. The forceps were at once applied, and in a short time—certainly less than fifteen minutes—the woman was delivered. The bloodless child gave a gasp or two and died. The cord was broken near its middle. I think this occurred during delivery, although it is but fair to state that the attending physician, a most intelligent obstetrician, thinks the break in the cord may have been intra-uterine, and therefore a probable superadded cause of the hemorrhage and sudden death of the child.

The delivery of the child was followed by abundant dark clots of old blood. On introducing my hand in the uterus I found the placenta free. Its removal was followed by a chamberful of dark grumous blood, evidently some time effused. Energetic means were at once used to induce contraction. The hand kept in the cavity of the womb for this purpose could discover no rent or fissure in the uterine walls. The introduction of a large ball of ice was followed by feeble contractions. The ergot and laudanum were now resumed with the addition of ammonia, but in spite of all efforts the woman quickly expired at about eight A.M., some twenty-five minutes after delivery. I think with regard to the treatment, that with the indications gathered from this painful experience, I should not, in the future, place much dependence upon the use of ergot in such cases, but at the *earliest possible moment* would dilate and then turn or deliver with the forceps. A dose of ergot *just before* operating, to counteract the effects of suddenly unloading the uterus, would of course be useful, as it would tend to act at the close of the operation. Concerning the free use of ergot and laudanum after delivery there can hardly be but one opinion; but *first* and *foremost* in the treatment of this rapidly fatal complication I should most certainly place *manual interference*.

DR. FLINT stated that, in the examination of the first case, he felt quite certain that he heard, over and over again, *two* murmurs. He based his opinion of aneurism in a great measure upon the presence of the second murmur. The result has convinced him that hereafter he would be obliged to modify his opinion with regard to its significance as indicative of aneurismal tumors. With regard to the cause, it may be that the descending weight of the tumor produced a second wave of the vessel which gave rise to the murmur. He was not sure that this was philosophical, but he could think of no other mode of explanation.

DR. FINNELL stated that the puckered up appearance was not uncommon in all forms of peritoneal inflammation, and especially in cirrhosis. It was the result of fibrinous effusion.

With regard to the second specimen he referred to a similar case presented at the last meeting of the society, and in relation to treatment of the complication, said, that Dr. White at that meeting expressed himself as being in favor of ergot rather than totally and suddenly unloading the uterus, as this would be followed by complete inertia and still more alarming hemorrhage. Dr. Finnell thought from the fact that ergot was freely given in the case just presented, and yet with an unfavorable result, that in another case he would urge the thorough and free use of ergot, and then use means to unload the uterus.

DR. BIBBINS would state in regard to the first specimen of cancer that he presented a similar case to the Society some ten years ago, wherein he had made the diagnosis of aneurism. There was absence of pain, and very strong superior and lateral pulsation. Dr. Clark, in his remarks on the case at that time, said, "While cancer was painful in other parts of the body, that cancer of the pyloric orifice *without ulceration* was not attended with pain."

DR. ROGERS thought that in nearly all the cases presented to the Society the usual history has been, that absence of pain had deceived the diagnostician. He had no doubt it was from that experience that Dr. Clark's remarks were suggested.

With regard to the second specimen, he stated that the earliest case of intra-uterine hemorrhage which he had met occurred a little after the second month. The amount of blood lost in two bleedings was sufficient each time to fill a large "pot de chambre," and the woman recovered.

DR. FLINT thought the remarks upon pain in cancer would tend to leave an erroneous impression. He wished his testimony to be recorded, that pain is present in the great majority of cases as a rule, although he had met cases in which pain was not present.

DR. WHITHALL had seen two cases of cancer of stomach, and two of abdominal aneurism. Pain was present in one case of cancer, and present in both cases of aneurism, attended with local tenderness and pain in the lower extremities, which might be taken for rheumatism.

MONSTROSITY WITH CYSTIC TUMOR.

DR. BIBBINS presented a monstrosity delivered at full term, with the following remarks: Upon the lower part of the trunk of this child, proceeding from the junction of the right buttock with the sacrum and

lower part of the spinal column, is a very large cystic (?) tumor. The mother is a healthy Irishwoman, 32 years of age, who had previously borne three children, all healthy. While carrying this child she felt extremely anxious concerning her confinement, as her shape and sensations were peculiar. She is not aware that any deformity exists in her family. The father has had primary syphilis and chancres. She was taken in labor on Tuesday last, a week ago. When the doctor was called the sac of waters protruded, but it was impossible to make out the presentation without rupturing the membranes. She was then left for a time. On calling again in the evening, and endeavoring to make out the presentation, the membranes were ruptured and the pains ceased; but it was still impossible to discover the nature of the presenting part. On Thursday the pains returned, but not much progress had been made. On introducing the finger in the os a fleshy mass could be felt, but no bony resistance could be detected. At 2 A.M. some three physicians were sent for, none of whom came, until finally Dr. J. L. Camel, their former family physician, arrived at about 8 o'clock in the morning. Dr. Bibbins frankly stated to him that he was unable to make a diagnosis. After a consultation we both failed to make out the presenting part, until an attempt was made to turn the child. A large fluctuating mass was then discovered. On pressing this mass the head was found at the fundus, but we failed to secure the feet. The mass was then punctured, after which, with great difficulty one foot was found, and then the other. Nothing farther was done until the mass was freely incised, after which delivery was easily accomplished. The tumor before incision was probably six times the size of the fœtal head, though we have nothing left here but the sac, inside of which is another tumor apparently connected with the spine. The mother is doing perfectly well.

DR. HUTCHISON stated that within a few months he had seen a tumor in this region containing some two quarts of fluid; believing it was not spina bifida he punctured twice, and then injected iodine; soon after this the tumor reappeared, and not long after the child died of cholera infantum. Dr. Hutchison referred to Sir James Simpson's treatise upon this subject, where similar tumors are described and illustrated as occurring *outside* of the spinal column. Sir James calls them coccygeal tumors.

RECURRENT FIBRO-PLASTIC TUMOR.

DR. POST presented a tumor removed last week from a lady aged 59 years. It was situated about three inches above the upper margin of the mammary gland, being the third production in that region. In July, a year ago, he removed a similar tumor from this patient just above the mammary gland; in June following another, three inches above the cicatrix of the first one, and recently this growth, which proceeded from the cicatrix of the second operation. The tumor removed in June was examined by Dr. Lewis, and pronounced to be fibro-plastic. It is interesting from its remarkable tendency to be reproduced without apparently affecting the general health or contaminating the system.

ANEURISM OF ABDOMINAL AORTA.

DR. POST presented a second specimen taken from a young man 37 years of age, complaining of pain in the lower extremities regarded as rheumatic, and neuralgic pains in the abdomen. He examined carefully for aneurism, but could detect no pulsation. On Thursday last he died suddenly, and the doctor was requested to give a certificate, which he refused to do without making a post-mortem examination, although he had a strong suspicion that the case was one of abdominal aneurism, from the character of the pains and mode of death. It was learned at the house that he had suddenly been taken with excruciating pain, and a feeling as if something had given way, after which he lived some 12 hours, during which time he was not remarkably prostrated, but gradually sank and died.

On opening the abdomen an aneurism was discovered just below the diaphragm, and blood was found effused in large quantities in the lesser omentum. The superior mesenteric is given off from the tumor. About a year ago Dr. Post visited a patient in the same house who had also died suddenly. The aneurism in this case was found just above the bifurcation. There was no prominence forward, but the growth had enlarged backward, eroding the vertebræ nearly to the spinal canal. It was so deeply situated that neither auscultation nor palpation detected it during life.

DR. SAYRE suggested, that as the muscles were good conductors of sound, such an aneurism might be detected by applying the stethoscope posteriorly near the spine.

DR. POST stated, that he had not examined the patient in this manner. With regard to the pain of aneurism and cancer, he considered aneurism by far the more painful disease, especially when a plexus of nerves is involved, which is frequently the case. He had seen a case of axillary aneurism attended by the most intense pain; it was subsequently discovered that the axillary plexus of nerves was completely imbedded in the walls of the aneurism.

DR. FLINT gave the history of a case of aneurism of the thoracic aorta which took a backward course, and was not recognizable by the ordinary physical signs. The chief symptoms were localized pain, spasm of the glottis, and feeble respiratory murmur, more feeble on the left side than the right. The case proved fatal by hemorrhage from the trachea.

EPITHELIOMA OF LIP IN PATIENT AGED 21.

DR. SAYRE presented a specimen of epithelioma taken from the lower lip on the left side from a young man 21 years of age. It has been about 18 months in attaining its present size. Opposite the growth was a hole in the teeth caused by the use of a clay-pipe. He considered the specimen interesting on account of the youth of the patient.

TUMOR OF GLUTEAL REGION.

DR. SAYRE presented a second tumor, the nature of which he had not examined, removed from a patient presenting himself to his clinique at the Charity Hospital. The subject was 43 years of age, and had a large swelling on the right gluteal region some six inches in diameter, with a fluctuating feel in the middle. This growth began some two years ago. It has not increased materially for the last six months. The central portion was not reddened until about two months ago. The tumor was laid open by a free incision six inches in length, when about a quart of fluid escaped. At the bottom of the abscess at the junction of the sacrum and the ilium this growth was found. Fifteen years ago the patient suffered from syphilitic necrosis, and the present growth may be of the nature of an exostosis. Both specimens were referred to the microscopical committee, when the Society went into executive session.

NEW YORK MEDICAL JOURNAL ASSOCIATION.

STATED REUNION, OCT. 28, 1870.

DR. ALFRED UNDERHILL, VICE-PRESIDENT, in the Chair.

LOCAL MEDICATION OF RESPIRATORY TRACT.

DR. R. P. LINCOLN read a paper on *The Advances in the Means for the Treatment of the Respiratory Passages.* After a brief glance at the advantages of topical treatment, wherever applicable, as compared with general medication, and at the rapid extension of its range of application, due to the great improvements in physical diagnosis, and to such inventions as the laryngoscope, endoscope, etc., the doctor spoke more particularly of the local treatment of the respiratory apparatus. We should not think of treating a sore finger simply by a dose of medicine thrown into the stomach. Just as irrational is it to attempt the cure of an ulcer or inflammation of the nose or fauces, or even of the pulmonary mucous membrane, by the same means, when we have at command the means of reaching the affected part directly. We can now diagnosticate, with great accuracy, the seat and the character of any lesion, from the anterior nares to the pulmonary vesicles; and by means of fluids properly atomized we can apply directly to the affected surface any medicament we please. That the smaller bronchioles and the air-cells can be thus reached has been satisfactorily established; but to accomplish this it is necessary that the spray for inhalation be of the finest, and that it be supplied constantly and abundantly. It was doubtless from failure to appreciate, or inability to meet, these conditions that experiments with this method of treatment had, up to a recent period, so often come short of full success, and that the method itself had rather fallen into disuse. But with a clearer pathology, new remedies, and perfected apparatus, the subject has awakened renewed attention; and results are now attained which were before vainly sought for. In almost every disease of the respiratory tract medicated inhalations prove a powerful adjuvant, and in very many cases they constitute the only treatment necessary.

The speaker now gave a *résumé* of the history of inhalation, from the time of Hippocrates to the present. In its various forms of insufflation of powders, fumigations, and inhalation of vapors and gases, it had for centuries been more or less practised, with a varying degree of success. But it was not until 1845, apparently, that the first rude attempts were made to introduce medicated fluids into the lungs by impregnating the respired air with their *spray.* These attempts led to others, and soon spray-producers differing in form and principle began to multiply. These were followed in detail through their successive modifications by Auphan, Sales-Girons, Matthieu, Fournier, Schnitzler, Waldenburgh, Lewin, and others, to Bergson, who, in 1862, applied the principle, at once generally adopted, of causing the fluid to rise through the medicine-tube by the rarefaction produced by a transverse current of air sent across its capillary point, this current coming from the capillary point of a second tube fixed close to the first and at right angles to it, and atomizing the fluid as fast as it escapes. Convenience soon suggested making the medicine-tube parallel to the horizontal air-tube for the greater part of its length, leaving its point, however, perpendicular to that of the air-tube, and bending it again above the medicine-glass so that it should dip vertically downwards into the fluid.

In 1866, Maus combined the suction power of Bergson's transverse air-current with the pressure of condensed air upon the surface of the liquid in the medicine-vial, in an apparatus the same in principle with that since become so famous as Richardson's atomizer.

In 1864 Siegle invented his steam atomizer, essentially the same as those now in common use.

We have no space here to follow the speaker through his account of these various nebulizers, but would refer the reader to figures and descriptions of the more important of them in MEDICAL RECORD, vol. i., pp. 169, 194, 219, 243; vol. iv., p. 328; vol. v., p. 237.

Dr. Henry K. Oliver, of Boston, introduced a valuable improvement in the mode of administration of atomized fluids. He had the spray produced inside a glass vessel, of about three pints' capacity, having one opening for the patient's mouth, and another for the admission of air and the escape of superfluous spray. This served not only to protect the face, but also—a most important point—to insure greater constancy and uniformity in the spray supply.

"In 1861, Dr. Sass, who had already spent much time and thought, and made many experiments, with the object of perfecting this means of treatment, conceived the idea of having the patient inhale directly from a reservoir so large that it would not be exhausted during the act of inspiration, and with a supply so ample and constant that the spray consumed by one inspiration would be more than replaced during the interval of expiration. To produce the atomization he employed an apparatus which he had used since 1848, and which was almost identical with that now known as Richardson's Spray Producer." It consisted of two tubes, one within the other; the inner tube (for the fluid) dipping nearly to the bottom of the fluid in the medicine-vial, and its other extremity terminating in a capillary orifice; the outer tube (for the compressed air) extending only through the cork of the vial, so as to communicate with the air-space above the fluid and force this up through the inner tube, and terminating at its other extremity in a capillary orifice just beyond that of the tube enclosed. "To generate his power, condensed air, he used a common air-pump. The reservoir for the spray was a cylinder of glass, three feet high and thirty inches in diameter, with four trumpet-shaped mouth-pieces in its sides, which could be introduced to different depths within the cylinder, for the purpose of reaching spray of different degrees of fineness." The patient inspires by the mouth and expires by the nostrils.

"The effect in treating patients, and the results of experiments on animals, proved that the object sought was more perfectly realized than by any arrangement before employed." But the cumbrousness of the reservoir, and the difficulty of cleansing it, led to "modifications in its shape, till, in 1863, it had been transformed through many stages to the shape we now use, and which you see before you this evening. Globular in form, it is open at one end, where the atomized fluid enters as it is formed, while the opposite end is drawn out into a shape to be easily held in the mouth. It is supported upon an arm that can be adjusted to any height convenient to the patient. Several reservoirs can be mounted upon the same stand, as in the instrument before you, thus avoiding an admixture of medicines, and affording the opportunity of administering inhalation to several patients at once. Should it be deemed advisable at any time to give the inhalation warm, this can be secured by placing a lamp under the medicine-glass, or by putting hot water in the reservoir itself. So important an auxiliary do we

consider this reservoir that we invariably recommend the addition of one to the common steam-atomizers, when these are to be used." In 1863 Dr. Sass had adopted the Bergson glass tubes for nebulizing, with the now common device of bending their extremities at various angles, so as to direct the spray towards the larynx, the posterior nares, etc.*

The special advantages claimed for the apparatus above described were: 1. The *fineness of the spray* produced—secured by using strong tubes with very fine orifices and a great pressure of air (thirty or more pounds to the square inch). "The finer the spray, the more thoroughly can the atmosphere be loaded with it, and the more readily will it traverse the ultimate ramifications of the air-passages." 2. By *inhalation from a reservoir*, kept fully supplied, the spray, instead of being driven against the sides of the mouth and pharynx, and being in great part precipitated there, or exciting spasmodic cough, so as to prevent its passing the glottis, simply saturates all the air respired, and must go wherever that can penetrate. 3. *Ability to regulate the strength of the spray inhaled*, the lack of which constitutes so serious an objection to the common steam atomizers.

The speaker concluded by a brief reference to other instruments devised by Dr. Sass, to be more fully explained by their inventor—an illuminator for the laryngoscope, endoscope, etc.; an improved endoscope; a tongue-depresser with curve to fit the tongue; a douche for the posterior and one for the anterior nares; a glass face-shield for use in applications to the nostrils, and others.

Dr. L. F. Sass exhibited his instruments and showed their operation. They were noticeable as well for their beauty and perfection of finish as for their evident practical convenience and utility. Besides those mentioned by Dr. Lincoln, there were displayed various surgical instruments for operations on the larynx, etc. We noticed also two convenient little inventions of Dr. Norton Folsom, one a wire speculum for the nostril, the other an appliance of hard rubber to be attached to the spray-tube or the laryngoscope-handle, for either drawing forward or pushing backward the velum.

Dr. Bumstead had been so much pleased with Dr. Sass's illuminator, which uses a gas flame, that he had had one made on the same pattern. It left nothing to be desired. The addition of a jet of oxygen thrown into the middle of the flame, which he had at one time tried, gave a light stronger than necessary, and he had returned Dr. Sass's own form as perfectly satisfactory. The endoscope, to which Dr. S. had added a magnifying combination of lenses, worked admirably; and, with the illumination just mentioned, No. 1 Jaeger could be read as easily as with the naked eye by daylight.

Dr. Farnham had had the pleasure of using one of Dr. Sass's spray-producers for a number of years, and it had taught him how imperfect and comparatively inefficient were those he had before employed. By its means a four hundred and eighty grain solution of nitrate of silver could be used with perfect safety—in cauterizing the vocal cords, for example. Its action was instantaneous, and perfectly under the control of the thumb. Such an application did not suffocate the patient—indeed, was hardly painful at the time—although there was afterwards a burning sensation for some hours. For the cure of catarrh, the speaker had employed the instrument with great success, after other means had failed.

* [The necessity for having several sets of tubes for this purpose is obviated by Dr. Burrall's simple contrivance of introducing a piece of flexible rubber tubing between the spray-tube and the medicine-glass. See Med. Record, vol. iv., p. 328.—Reporter.]

Dr. A. L. Carroll remarked that atomization was, perhaps, first employed in this country some dozen years ago by Dr. Dewees; and, as the Doctor was present, he would like to hear from him.

Dr. Dewees said that he was experimenting upon the subject at the same time with Sales-Girons, each being wholly ignorant of the other's work. He had devised a double-tube instrument attached to an air-pump; but it acted imperfectly. Soon after this, some of the better inventions were published, and he abandoned his own. He claimed only to have been one of the first, if not the first, to apply the spray in this country.

Dr. A. H. Smith remarked that for those who had no air-pump, a cheap and convenient motive power for the spray-producer might be readily found in the cylinders of oxygen, under a pressure of 250 pounds to the inch, as supplied by the Oxygen Gas Company. The pressure could be perfectly graduated by means of the cock.

He had made some experiments in illumination by the aid of oxygen without the addition of the lime-point. By slightly enlarging the holes of an Argand burner, and then throwing a jet of oxygen into the middle of the flame, he had obtained a strong white light with little increase of heat. A beautiful modification of this arrangement had been made by Dr. Piffard.

In the application of spray for cauterizing purposes, he had found the spray-tube itself hold enough fluid by capillary attraction; the medicine-vial might therefore be dispensed with, and then the same tube would serve to throw the jet upwards, downwards, or sideways. A second tube would be required, however, to throw it directly forwards.

Dr. Piffard remarked that, to furnish a motive power for the nebulizer, the cylinders mentioned by Dr. Smith could be more cheaply filled with condensed air than with oxygen.

Dr. Beard had found the application of a two or three grain solution of nitrate of silver, by means of the posterior nasal syringe, cause great pain. He was convinced that a solution of this strength was more painful than a four hundred and eighty grain solution.

To obviate the danger attendant upon the use of Thudicum's nasal douche, the apparatus had been modified by attaching to it a tube for the free outflow of the fluid.

The speaker wished that an apparatus so valuable as that exhibited might be brought within the means of physicians in general practice, and hoped Dr. Sass would exercise his ingenuity to simplify it to this end. Not one out of a hundred of country patients suffering from catarrh could come to the city for treatment. There was the same difficulty with electro-therapeutics.

Dr. Pomeroy heartily concurred in the last remarks. Yet many of the most important purposes might be subserved by a slight modification of an instrument in every doctor's office. For a couple of years back he had depended, for cleansing the nasal passages, wholly upon a Davidson's syringe, to which he had attached, for the posterior nares, a hard-rubber nozzle, bulb-shaped, perforated with numerous holes, and bent so as to be easily passed up behind the velum. For the anterior nares he had a plain nozzle adapted to the shape and size of the nostril. With the Davidson you could inject your warm salt and water as gently as you pleased, or forcibly enough to remove the tenaciously clinging secretions. It was thoroughly effective in cleansing the naso-pharyngeal space, and it was certainly cheap.

Of spray-producers he had found one at Otto & Reynders' having the spray-tube made of hard rubber, and arranged with a swivel, so as to turn in any direction. The inner tube was of metal, which was objectionable; but he had had this replaced by one of hard rubber, and had the whole instrument made smaller, so as to pass the uvula without difficulty. For applying a solution of, for instance, nitrate of silver to the anterior nares, it was well to have a bulb behind the point of the spray-tube to fit the nostril, and so prevent staining. By having a hole in the rubber ball, to be stopped by the thumb, you could instantly check the production of the spray. With this simple apparatus you could apply a caustic solution behind the palate almost as quickly as you could turn up the eyelid and touch it with the sulphate-of-copper crayon.

DR. BURRALL could endorse the commendations of the apparatus exhibited. He had found his own illuminator, presented before the Association about three years ago, give sufficient light for very thorough laryngoscopic examination; and it was comparatively cheap. An excellent cylinder for holding condensed gases—small and portable, and capable of sustaining great pressure—was made by Grüber of this city.

DR. HOLCOMBE referred to a case of inflammation of the middle ear, which, according to the patient's statement, "had been punched up there by some throat-doctor who had injected a spray into his throat."

DR. DEWEES.—Some twenty-five years ago I was censured by Dr. Mott, the elder, who said I should probably cause the death of some patient by throwing injections through the Eustachian tube. I used to throw in a thirty or forty grain solution of nitrate of silver into the Eustachian tube, and I had also an exhauster by which I drew out often considerable mucus. I never had an accident in my practice, which was then quite extensive in ear-diseases; and I do not believe there is the danger that is supposed. The only danger seemed to be from the violence of the irruption of air into the tube, and this I was careful to avoid.

OZONE FOR INHALATION.

DR. DEWEES presented the apparatus, of which he had spoken at the meeting of October 7th (MED. RECORD, vol. v., p. 404), with the following remarks:

Many years ago I attempted to perfect an instrument by which oxygen could be inhaled. It failed most signally in practice, on account of the difficulty of getting pure oxygen gas. It produced much irritation. Now pure oxygen is readily and cheaply obtained. About two years ago I experimented upon the application of ozone. Knowing little about the subject, my work went lazily along, until, about five months ago, I proposed to my friend, Dr. Wilkinson, that he should get up an apparatus for the generation of the gas for inhalation; and this machine is the result of his ingenuity entirely. It consists of a Ruhmkorff coil, whose poles are connected with the metallic caps of a glass tube about two feet long by an inch in diameter, around the inside of which runs spirally a lightning-chain of platinum discs. To the brass cap at one end of the tube a mouth-piece for inhalation is attached; through that at the other end either oxygen or common air is admitted. The coil, which contains some five miles of wire, is animated by a two-cell battery, and will send a spark nearly two inches through dry air. When the connections are made the oxygen of the air in the tube is rapidly ozonized by the numberless sparks—so rapidly that by simply drawing the breath (of air or oxygen) through the tube you get a decided effect from the ozone produced. By modifying the strength of the battery and the length of the lightning chain, the amount of ozone generated may be increased or diminished.

I present this apparatus for use in pulmonary diseases, as enabling us to give the equivalent of a sound lung to a patient with the lung partially disabled. Oxygen, as it is taken into the system through the lungs, has probably to undergo this change into the active condition of ozone before it becomes efficient. It is thought by Dr. Wilkinson that very likely, this change of the oxygen of the air inspired is normally produced by the nerve-power. At all events, in typhoid conditions, where nerve-power is exceedingly low, we have very little oxidation going on. You might suppose that the ozone, by its chemical action, would irritate the mucous membrane of the respiratory tract, but it does not. This apparatus simply enables us to give active oxygen—to get the same effect as from a drive in the park or in the country, without the fatigue. By its means you can certainly give a patient, whose lung-surface for respiration is lessened by one-third or more, the full equivalent of the loss.

DR. WILKINSON now exhibited the apparatus in action, and its effects were tested by several members.

The meeting then adjourned.

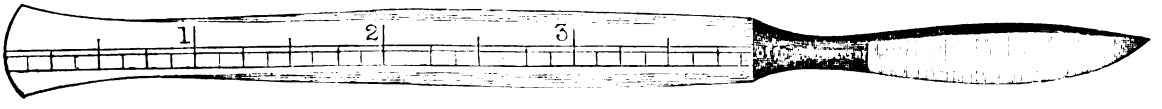
Correspondence.

A SYSTEM OF MEASUREMENT FOR MEDICAL STUDENTS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR—While brushing up my Surgical Anatomy last winter, I greatly felt the want of some handy means of verifying the numerous measurements of length, breadth, and relative distance given in the text-books. I therefore have devised a way of accomplishing this object, which I beg leave, through your journal, to place before the medical student. It consists simply in having a four-inch scale ruled upon the handle of a scalpel, as shown in the cut. By use of this device the student learns to become a close observer. At the same time the eye becoming trained to estimate distances correctly, the hand soon acquires that precision of movement so necessary in performing certain operations.

The opposite side of the handle is ruled in millimeters, after the French system—a secondary advantage, which I find of great convenience as a standard of reference.



Messrs. Otto & Reynders, of 64 Chatham Street, N. Y., are now prepared to furnish dissecting cases with these scalpels, at a trifling additional cost.

Very respectfully,

JOHN HOWE, M.D.

311 W. SEVENTEENTH ST., N. Y.,
November 12th, 1870.

ARMY AND NAVY NEWS.

List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from November 18th, 1870, to December 3d, 1870, inclusive.

MAGRUDER, D. L., Surgeon.—By S. O. 224, c.s. Headquarters Department of the Missouri, granted leave of absence for thirty days.

COWDRAY, S. G., Assistant-Surgeon.—By S. O. 221, Headquarters Department of the Missouri, November 22d, 1870: to proceed to Fort Gibson, C. N., and report to the commanding officer of that post for duty.

Medical Items and News.

BUREAU OF SANITARY INSPECTION—HEALTH DEPARTMENT,
301 *Mott Street, New York,*
December 7, 1870.

To the Board of Health Department,
EMMONS CLARK, *Secretary:*

I have the honor to submit the following statement of contagious diseases reported to this Bureau for two weeks ending Dec. 3d, 1870:—

Week Ending	FEVERS.			Small-pox.	Scarlatina.	Measles.	Diphtheria.
	Typhus.	Typhoid	Relapsing.				
Oct. 26.	6	53	5	2	55	39	5
Dec. 3.	4	45	7	2	61	43	7

Scarlatina having become epidemic throughout the city, I have given specific directions to the Health Inspectors to visit each case reported, for the purpose of instructing those in charge particularly as to the sanitary necessities in each case, giving directions how and what to apply as means of disinfection, and the sanitary care of all infected articles about or in the sick room.

For this purpose I have prepared a code of Rules which are to guide them in these efforts, and I desire to have them printed on small slips, for general distribution among those dwellings where this disease prevails, to wit:—

Scarlatina.—Every case of this disease must be reported to the Bureau of Sanitary Inspection on its first appearance.

Care of Patient.—The patient should be placed in a separate room, and no person allowed to enter the sick room except the nurse and the physician in attendance, or to touch the clothing or bedding used in the sick room, until it has been thoroughly disinfected.

Infected Things.—All clothing, bedding, and other articles not absolutely necessary for the use of the patient, should be removed from the sick room. Articles used about the patient, such as sheets, pillow-cases, or clothes, must not be removed from the sick room until they have been disinfected by placing them in a tub, with the following disinfecting solution: 8 ounces sulphate of zinc, 1 ounce carbolic acid, 3 gallons water.

They should be soaked in this fluid for one hour; and then be thrown into boiling water and thoroughly washed. Feather and hair pillows and mattresses require fumigation, and should not be removed from the sick room until after this has been done by the Disinfecting Corps of this Department.

Whenever the patient is removed from the sick room notification should be sent to this Bureau.

All vessels used to receive the discharges of patients should have some of the above solution kept constantly in them, and immediately after their use be removed from the sick room and emptied.

Water-closets and privies must also be disinfected daily with some of the same solution. A piece of muslin one foot square should be dipped in this solution and suspended in some part of the room constantly, and the same be kept in the hallways adjacent to the sick room. All straw beds should be burned after use, but should not be removed from the room except by permission of this Department.

It is advised not to use handkerchiefs about the patient, but rather old, soft rags, which should be immediately burned after use.

The ceilings and sidewalls of the sick room should be thoroughly cleansed and lime-washed whenever the patient has been removed therefrom.

Respectfully submitted.

Your ob't serv't,
MOREAU MORRIS, M.D.

NEW YORK SOCIETY FOR THE RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—The twenty-eighth anniversary dinner of this benevolent society took place at Delmonico's, Tuesday evening, Nov. 29th, 1870. Abuut two hundred guests were present. The dinner, in every respect, was the most successful and elegant ever given by the Society. And in a pecuniary point of view it was all that the managers desired, as nearly $800 were paid into the treasury on that occasion. Twenty-three new members were also added to its roll of membership.

The Treasurer's report exhibited the following sums belonging to the Society, and invested thus:—

Bonds and mortgages	$36,500
United States 81s, coupon	1,000
United States 81s, registered	19,000
United States 5-20s registered	26,000
Total	$82,500

Subsequently to the disposition of the dinner. Dr. Oliver White, the President, delivered an appropriate and interesting address. He remarked that there was a gentleman present, Dr. Edward Delafield, through whose instrumentality the Society has been established, and it was at one of these dinners that the suggestion was first made which led subsequently to the establishment of the New York Academy of Medicine. He was gratified to say that there was not an original member of this Association who had ever turned back from the good work. This was a noble charity, which was worthy the attention of all medical men, and he hoped that it would prosper in the future as it had in the past.

The next speech was by Ex-Judge Edwards Pierrepont, who responded to the sentiment, "The United States of America."

Chancellor Crosby responded for the "Learned Professions: Divinity, Law, and Medicine." He was followed by Ex-Judge Clerke; Prof. Austin Flint, Senr., M.D.; Dr. John Moore, U. S. Army; Dr. Henry S. Wells, U. S. Navy; Charlton T. Lewis, Esq., who made a telling speech, in response to the toast, "The Press;" and Prof. E. R. Peaslee, M.D., who responded for "Woman."

Dr. W. Detmold, in a few happy and appropriate remarks, presented to the Society an expensive painting, executed by Hart, of Prof. Edward Delafield, M.D., its first President. This was ordered and paid for by a few members.

The members of the Society now number one hundred and forty-eight, including the twenty-three new mem-

bers. Aid is now given to six widows and three children of its deceased members.

Annual members pay an initiation fee of ten dollars, and ten dollars dues, in semi-annual payments; or one hundred dollars paid at one time constitutes a member for life. By the payment of one hundred and fifty dollars, or upward, one is constituted a benefactor.

Its efficient officers are as follows:—*President*—Oliver White, M.D.; *Vice-Presidents*—E. L. Beadle, M.D., J. O. Stone, M.D., S. Conant Foster, M.D.; *Secretary*—Jas. L. Banks, M.D.; *Treasurer*—J. W. G. Clements, M.D.; *Chairman of the Committee of Arrangements*—Alfred Underhill, M.D.

New York Academy of Medicine.—At the meeting held Nov. 3, 1870, Drs. James G. Clarke of New Brighton, Staten Island, and W. H. B. Post were elected Resident Fellows.

American Medical Association.—Members can obtain their copies of the Transactions for 1870, from Dr. A. E. M. Purdy, 123 East 38th st.

The Newly-Discovered "Durkee Spring."—The newly-discovered mineral spring at Portago, nine miles from Kalamazoo, Kalamazoo County, Michigan, called the "Durkee Spring," closely resembles in its nature and composition that noted one of "Spa," in Belgium. The *external* application of the water seems to be decidedly sedative, and is recommended in cases of rheumatic affections.

New York Academy of Medicine.—Of the thirteen Fellows who have been elected to preside over this Society, nine have been removed by death, viz.: Stearns, Francis, Mott, Stevens, Cock, Jos. M. Smith, Batchelder, and Watson. The average age of these departed Presidents, at the time of their decease, was seventy-five years; excluding Watson, who died prematurely of malignant disease in his fifty-ninth year, the average age was seventy-eight years.—*Dr. Gouvr. M. Smith's Discourse.*

The Massachusetts Medical Society.—At the stated meeting of the councillors of this society, held in Boston October 5th, Dr. Asa T. Newhall, of Lynn, was expelled for alleged criminal abortion.

The committee appointed by the councillors to take action on the report of the delegates to the American Medical Association presented several resolutions, which condemned the action of the American Medical Association in imposing conditions upon the rights of this society, which are deemed ill-considered and unwarranted. All of the resolutions were passed. The fourth resolution reads as follows: "The committee recommend that no delegates from the Society be sent to the next annual meeting of the American Medical Association."

India Ipecacuanha.—There has been a good report made of the progress of ipecacuanha culture in India, where it is found so valuable in that prevalent disease, dysentery.

Death of a Noted Author.—Fitzhugh Ludlow, author of "The Hasheesh Eater" and "The Opium Habit," recently died at Geneva, Switzerland.

Roman Life.—On consulting the tables of Ulpianius, founded on observations of one thousand years, we find that the mean term of Roman life was thirty years. At the commencement of the Christian era, this was the average length of life.

Cerebro-Spinal Meningitis in Providence, R. I.—Dr. Stephen S. Keene, Providence, R. I. (*Boston Medical and Surgical Journal*), records four cases of cerebro-spinal meningitis which occurred in the month of March, April, May, and July, in a dwelling-house occupied by one family, and were afterwards transported to the Rhode Island Hospital for treatment. These patients recovered from the acute attack, but suffered from the sequelæ, or the disease in its chronic form.

These were the only cases observed in Providence at that time or subsequently. Poison being suspected, careful chemical examination was made of the water and water-pipes without result.

So far as he has been able to ascertain, this is the first time that cerebro-spinal meningitis has been observed in Providence. The first and only record of its appearance in Rhode Island was in 1863, when it prevailed in the Naval School at Newport.

Death from Chloroform.—Recently, a female patient was placed on the operating table of the Cincinnati Hospital, for amputation of the foot, by Dr. Dawson. A small quantity of chloroform only was used, and the patient expired almost immediately after the completion of the operation. Fatty degeneration of the heart was revealed at the post-mortem examination.

Brigham Hall Insane Hospital, N. Y.—Since the opening of this Hospital, in 1855, 696 patients have been received; 219 have been discharged recovered; 137 improved; 151 unimproved; and 62 have died. 64 inebriates have been treated and discharged, with good results in many instances.

At the close of 1868, there were remaining under treatment 10 recent cases, and 34 were admitted in 1869, making the total number of recent cases treated in the course of the year 44. Of this number 30 were discharged recovered; 2 left improved; 2 unimproved; 2 died, and 8 remained at the close of the year 1869.

The Resident Physician, Dr. George Cook, hazards nothing in saying, that no array of facts or opinions could be more conclusive of the importance of early treatment in mental diseases, than the simple statement here made.

A Double-Headed Child.—Mrs. Finley, the wife of a respectable well-to-do farmer, of Morrow County, Ohio (*Cin. Med. Repertory*), was delivered, October 12th, of a living remarkable monstrosity, in the form of a *double child.* Each child has a separate stomach, but bowels in common.

The Turkish Bath in Lunatic Asylums.—The first lunatic asylum that introduced the Turkish bath was that in Cork, the largest, except one, in Ireland, with accommodations for five hundred patients. Since the introduction the cures have been 40 per cent.; before its introduction only 20 per cent.

The Inventor of the Mercurial Barometer.—The mercurial barometer was invented by Torricelli; he died soon after, in 1647, in his thirty-ninth year.

New Publications.

An Introduction to the Osteology of the Mammalia—Being the Substance of a Course of Lectures delivered at the Royal College of Surgeons of England, in 1870. By William Henry Flower, F.R.C.S., Hunterian Professor of Anatomy and Physiology, &c. With numerous illustrations. London: Macmillan & Co., 1870.

Transactions American Medical Association, Vol. XXI., 1870.

Original Lectures.

ON THE EFFECT OF INHALATIONS OF OXYGEN UPON THE PULSE.

Remarks before the New York Medical Journal Association, November 4, 1870.

By ANDREW H. SMITH, M.D.,

LECTURER ON MATERIA MEDICA AND THERAPEUTICS AT WOMEN'S MEDICAL COLLEGE OF NEW YORK INFIRMARY.

Mr. President—Observations which I have recently made upon the pulse, as affected by the inhalation of oxygen, tend toward fixing some points heretofore undetermined.

The first series of observations, one hundred and two in number, were made upon eleven phthisical patients. In seventy-two of these observations the pulse was retarded an average of ten beats per minute; in eighteen its frequency remained unchanged, and in twelve there was an acceleration averaging six beats per minute.

The average frequency of the pulse in the observations showing a decline was ninety-six; in those in which there was no change, ninety-seven; and in those in which there was a rise in the pulse, ninety-four.

These figures correspond so closely that their difference does not afford any explanation of the results obtained.

Of the eleven patients, three uniformly exhibited a fall of the pulse. In the remaining eight the result differed in different observations, the pulse sometimes remaining the same, sometimes rising, but more frequently falling; each individual conforming closely, on the whole, to the average already given.

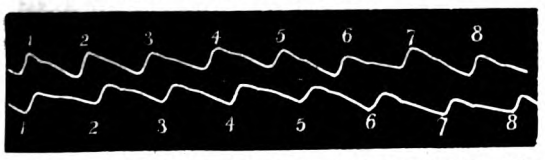
The second series, consisting of twelve observations, were made upon twelve persons in health.

Of these, in four there was no change, in the remaining eight there was a fall, averaging nine beats per minute.

If the reduction of the pulse had been confined to the *phthisical* cases, where the range was upwards of ninety, and in some cases above one hundred, we might suppose that oxygen acted only as a stimulant, and produced merely the effect which brandy might have caused. But in view of its action upon the pulse in *health* this explanation is not tenable. So far as these experiments go they seem to indicate that oxygen is an arterial, or, more correctly, a cardiac sedative.

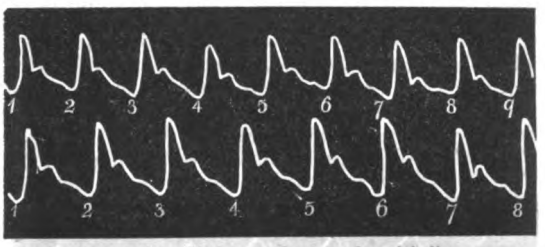
It does not follow, however, that the mode of action is analogous to that of digitalis or veratrum viride. It is more probable that the result is brought about indirectly, the first step being a change in the blood which facilitates its circulation and thus lessens the labor imposed upon the heart.

A third series of fifteen observations were made by the aid of the sphygmograph upon ten persons in health and five suffering from disease. In two cases no change whatever was observed, and in two others there was simply reduced frequency, as shown in tracing No. 1.* In the remaining eleven there was more or less change in the *character* of the beat. In studying these changes it is necessary to bear in mind that the volume of the pulse is influenced by four conditions: 1st, the force of the cardiac systole; 2d, the aggregate quantity of blood circulating; 3d, the condition of the artery; and 4th, the resistance which the blood meets with in its circulation. As, however, the quantity of blood and the condition of the artery could not change in the short time required for these observations, the problem is narrowed down to considering the effect upon the heart's action and upon the resistance to the circulation.



No. 1.—Simple retardation without change of character, from inhaling oxygen.

Now, as we have seen that in about 70 per cent. of the first and second series of observations the heart's action was very considerably retarded by the oxygen, thus giving more time between the contractions for the ventricle to become filled with blood, we should naturally expect that the systole, throwing an increased amount of blood into the arteries, would occasion an increased volume of the pulse. The sphygmograph shows that this effect actually results in a considerable proportion of cases, as is well shown in



No. 2.—Retardation with increased volume from inhaling oxygen.

the tracings marked No. 2, which I will now pass round. But in other cases, with reduced frequency of the pulse, the volume remains the same, or is even diminished. Does, then, the sedative effect of the oxygen, in these cases, extend to the *force* as well as the frequency of the cardiac contractions? I think not. Clinical observation goes to prove that oxygen is a tonic, giving tone and vigor to the muscles and to the system generally, an effect totally at variance with the idea that it debilitates the heart. The true explanation, as I conceive, is to be found in the effect of oxygen upon the capillary circulation.

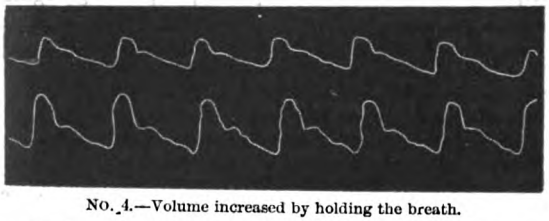
It is clear that the volume of the pulse must be greatly influenced by the resistance which the blood meets with in passing through the capillaries. If obstructed in its flow an increased distension of the artery

No. 3.—Volume increased by obstructing the veins of the arm.

from the *vis a tergo* must result. This is shown by tracings No. 3, the first line of which represents the natural pulse, while the second shows the effect of obstructing the venous circulation by placing a ligature above the elbow, as for venesection. You will observe that the volume is more than doubled. That the same effect may be produced by influences operating upon the blood itself, is shown by No. 4, in which the volume of the pulse is enormously increased by simply holding the breath. Either the fluidity of the blood is lessened

* The cuts represent a transit of 5⅕ seconds.

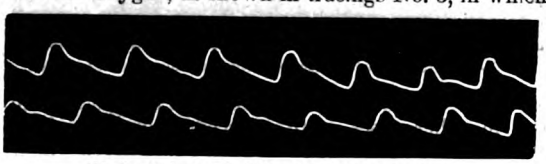
by imperfect arterialization, or the vital attraction which is supposed to facilitate the capillary circulation is diminished. At all events, the passage of the blood is retarded.



No. 4.—Volume increased by holding the breath.

Such being the effect of *increasing* the capillary resistance, it is not unfair to assume that a contrary result would follow if this resistance were *diminished*, and we should therefore expect to find that when the passage of the blood through the capillaries was in any way facilitated, the volume of the pulse would be, *cæteris paribus*, diminished. And since a deficiency of oxygen in the blood obstructs the capillary circulation, it is reasonable to suppose, though it does not necessarily follow, that an excess of the same agent would facilitate it, and thus tend to neutralize the effect upon the pulse of an increased volume of blood thrown into the arteries by the cardiac systole. This explanation accords with the effect of oxygen upon the dicrotism of the pulse, as we shall presently see.

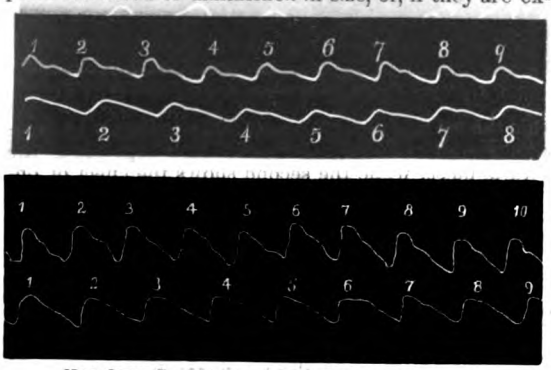
An extension of this principle will account for the effect of oxygen, as shown in tracings No. 5, in which



No. 5.—Volume diminished by inhaling oxygen.

it greatly reduces the volume of the pulse. These tracings were taken from a *bon-vivant*, very plethoric, with congested capillaries and a tense, full pulse. We can easily conceive that in such a case anything which would aid the passage of the blood through the capillaries would lessen the distension of the artery from the cardiac impulse.

My view then is, that oxygen acts at the same time upon the heart, to reduce the frequency of its contractions and increase the quantity of blood thrown out at each systole, and upon the blood, to facilitate its flow through the capillaries; that these actions are antagonistic in their effect upon the volume of the pulse, and that, as one or other predominates, we shall have the pulse increased or diminished in size, or, if they are exactly apportioned to each other, that there will be no change of volume.

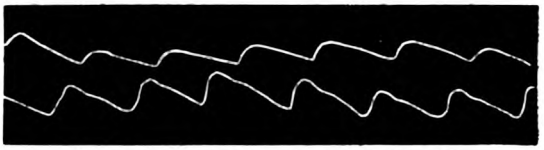


Nos. 6 and 7.—Dicrotism removed by inhaling oxygen.

The effect of oxygen upon the dicrotism of the pulse depends, I believe, upon the same principles. Dicrotism being the result of a reflux wave rebounding from the obstruction encountered in the capillaries, it will be diminished in proportion as the obstruction is lessened.

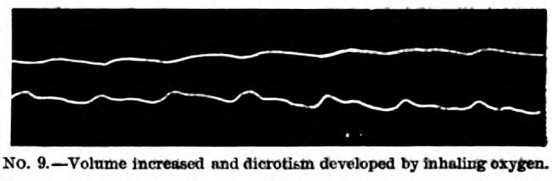
This is well shown in Nos. 6 and 7, in which the dicrotism is nearly obliterated by the oxygen.

On the other hand, dicrotism may be developed by increasing the capillary resistance, as in No. 8, in which a pulse previously not dicrotic is rendered so by holding the breath.

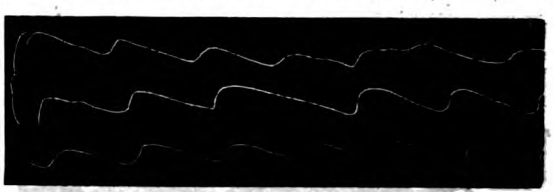


No. 8.—Dicrotism developed by holding the breath.

It may also be developed by giving increased vigor to the systole, and thus propelling the wave of blood with such force that it will rebound when it meets the resistance of the capillaries. This is shown in the tracings marked 9, taken from a medical gentleman who is suffering from some obscure neuralgic affection of the stomach, which compels him to use enormous quantities of morphine. The normal tracings are exceedingly feeble, merely wavy lines. Under the inhalation of oxygen a considerable volume of the pulse is developed, and it has become markedly dicrotic; but it is not as regular and even as it was before the oxygen was administered. Perhaps if a larger quantity of the gas had been inhaled greater steadiness and regularity would have been attained, inasmuch as oxygen, like other cardiac sedatives, seems usually to give strength, firmness, and regularity to the pulse when weak, fluttering, and irregular from disease. This is often very obvious to the finger, a few minutes being sufficient to change entirely the character of the pulse. I have here two sets of tracings by which this is strikingly illustrated. The first, marked 10, is from the pulse of a lady suffering from nervous debility growing out of uterine disease. It is excessively irregular, and to the finger seemed to be intermittent, but the tracing shows at those points a feeble beat. The inhalation of five gallons of oxygen,



No. 9.—Volume increased and dicrotism developed by inhaling oxygen.

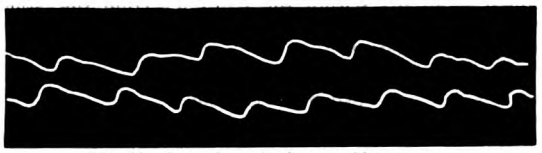


No. 10.—Irregular pulse rendered regular by oxygen.

occupying perhaps ten minutes, resulted in the perfectly regular pulse shown in the third tracing.

The second set, marked 11, were taken from a man whose health is shattered by masturbation. No two

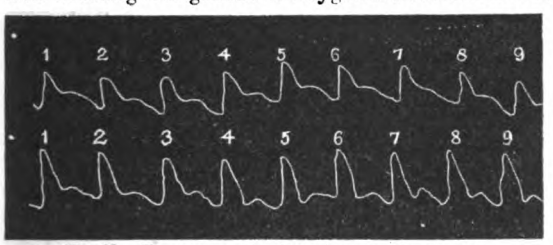
beats are of the same length or the same character. The inhalation of a few gallons of oxygen gave a trac-



No. 11.—Irregular pulse improved by oxygen.

ing which presents a marked improvement. The beats are of the same length, and but for a slight deviation from a straight line, caused by muscular contraction, the tracing would be remarkably regular.

In a small proportion of cases oxygen *quickens* the pulse. It is probable that from some peculiar condition of the system the gas acts merely as a stimulant. Occasional deviations from their usual action are exhibited by all remedies, and to this rule oxygen is no exception. I have here a tracing, No. 12, from a patient having emphysema. Before inhaling the pulse was 96, after inhaling four gallons of oxygen it had risen to 102.



No. 12.—Frequency and volume increased by oxygen.

The height of the stroke is nearly doubled, but the suddenness with which the line descends shows a very low degree of tension. It is, in fact, an irritable pulse, such as is produced by a small quantity of blood propelled with great velocity and in a compact mass. The dicrotism is markedly increased, as we should naturally expect, for the rebound must be in proportion to the force of incidence.

The duration of the effect of oxygen upon the pulse is a point which I have had comparatively little opportunity to determine. My observations having been almost wholly upon office patients, it was impossible, for obvious reasons, to follow up this line of inquiry with any degree of success. In the few cases, however, in which this point has been noted, I have found the duration to vary from a few moments to several hours, and in a number of cases the effect has continued until the following day.

In some cases oxygen seems to be without any effect whatever upon the pulse. When this is the case, it is probably not absorbed, owing to some unknown condition of the blood. Whatever this condition may be, it is often very transient, so that a pulse which is entirely unaffected to-day will perhaps lose sixteen beats under apparently the same conditions to-morrow. Possibly the key to this may be found in the observation of Chevreul, that oxygen is more readily absorbed when the blood is unusually alkaline. In a few cases I have given alkalies, and have fancied that the tonic effect of the gas was afterwards more marked; but my observations have not been sufficiently numerous to enable me to speak decidedly upon this point.

The quantity of oxygen given in the observations forming the basis of this paper was generally about eight gallons. I have not usually observed that the effect was increased by giving beyond that amount at a single sitting. Care was taken to have the conditions similar in the comparative observations. Patients who had been walking were allowed to rest, and everything calculated to produce alarm or excitement was avoided. When the sphygmograph was employed, its nature and use were first explained, a precaution quite necessary in the case of nervous persons, and the comparative observations were made without removing the instrument, or changing in any way its adjustment.

With regard to the facts presented in this paper, Mr. President, I can speak with confidence. They are of such a character that with ordinary care in observing them there is little room for error. But my interpretations of these facts I present with diffidence. The field is a new one, and, so far as I am aware, heretofore unexplored. It may well be that observations from other sources will show that I am in error in the deductions I have made, in which case I shall be the first to welcome the more mature views which will take their place.

Original Communications.

CONGENITAL HYPERTROPHY OF THE TONGUE—OPERATION.

By GURDON BUCK, M.D.,

SURGEON TO NEW YORK HOSPITAL AND ST. LUKE'S HOSPITAL.

Mary Jane C., nine years old, native of Connecticut, of healthy family and good constitution, admitted into St. Luke's Hospital May 21st, 1866, with hypertrophy of the tongue, which her mother states has existed from birth, its increase having gone on proportionately with her general growth.

The tongue is habitually protruded about two inches beyond the lips. It expands laterally, so as to stretch the angles of the mouth, which somewhat overlap it. Its thickness is more than one inch, its breadth two inches and three-eighths, and its circumference four inches and five-eighths. Its upper surface is covered with a yellowish brown coat that on drying is detached and falls off in scales. The protruding portion is firm, hard, and painless; the portion within the mouth, though of full size, is in other respects normal. The under-lip hangs over upon the chin from the pressure of the tongue. Patient is able to protrude the tongue about four inches beyond the lips.

Fig. 1.

The lower front teeth are depressed forwards nearly to a horizontal position, and are thickly incrusted with

tartar, so as to be more than double their natural size. This is true of all the lower incisors and canine teeth. It is remarkable that articulation is very little affected. She attends school, and recites and sings with her fellow-pupils. The sublingual and submaxillary glands are not enlarged. Her aspect and general health are good. (See Fig. 1.)

OPERATION—MAY 26TH.

After etherization the following operation was performed: The tongue being seized with a vulsellum, and drawn forward out of the mouth, a strong double ligature, two feet in length, armed at each end with a large-sized curved needle, was passed from below upward through the edge of the tongue, far back on both sides, at opposite points. One of the ligatures was then cut in the middle, and the ends of each half tied together to form a loop with which to hold the tongue forward, and prevent its retracting within the mouth. The other ligature was kept in reserve, to be used as a suture in approximating the lateral flaps which were about to be formed. The tongue being now drawn forward, and spread out laterally by the loops held by an assistant on either side, was transfixed from below upward in its middle, as far back as the teeth would permit, with a sharp-pointed bistoury, and a lateral flap formed on the left side by cutting outward and forward. The right flap was completed by applying the knife at the edge of the tongue, and cutting in a reversed direction from without inward, and before backward. The arteries spurted briskly, but were secured in the usual manner by three ligatures. The free oozing from the cut surfaces was controlled by the pressure of the lateral flaps, which were brought together and secured by sutures, the principal suture being the ligature held in reserve for that purpose. The complete control of the tongue maintained by the loops used for the purpose permitted the operation to be performed with as much promptness as an ordinary amputation of a limb. The method by lateral flaps employed in this case left the stump well shaped in respect of its breadth; but I was not without some misgivings in respect of its thickness vertically. The protruding part of the tongue being out of the way, it now became apparent that the lower jaw in front had undergone a change of form in consequence of the presence of the tongue. The upper and lower teeth came in contact no farther forward than the first molar teeth on both sides. Anterior to this point the teeth were more than one inch apart in the median line.

May 27th.—Pulse 126. Surface a little hot and dry. Ordered

Spirit. mindereri, ʒ ij,
Tinct. aconit. rad. gtt. i,

every four hours. Had slept well. No severe pain. No hemorrhage. End of tongue situated between teeth one inch thick.

May 28th.—Pulse 120. Slept well. Takes nourishment well. Considerable swelling of tongue has taken place, with a livid, ashy aspect of the protruding portion. Breath very fetid. Right side of jaw swollen. Swallows milk with some difficulty. Ordered half ounce of wine every four hours, and mouth-wash of dilute permanganate of potash.

May 29th.—Pulse 126. Swelling same. Flaps have separated; their edges are sloughy. Appetite good.

May 31st.—Pulse 126. Swelling abating. Sloughs separating. Deglutition improved. General condition satisfactory. In the subsequent progress of the case no considerable loss of parts followed the sloughing. Healthy action was gradually re-established, and on the 18th June cicatrization was complete. The end of the tongue, however, still being too large to be retained habitually within the teeth, a second operation was judged necessary to remove the defect, and was performed as follows:—

SECOND OPERATION.

After the administration of ether, a strong ligature was passed transversely through the tongue far back, for the purpose of controling and holding it forward. The tongue itself being seized with a vulsellum and compressed laterally, its vertical thickness was thereby increased, while a wedge-shaped portion was removed by transfixing the tongue laterally midway between its upper and lower surface with a long, sharp-pointed knife, and cutting forward and downward through its under surface. Then applying the edge of the knife upon the upper surface, opposite to the end of the underflap just made, and cutting backward and downward to where the first incision started, the upper flap was formed. After ligating two or three arteries that spurted freely, both flaps, with their edges, were brought together and secured by interrupted thread sutures.

On the second day following the operation, a good deal of swelling of the tongue had taken place, with considerable febrile reaction. Pulse 124. Skin hot and dry.

On the seventh day, all the sutures had been removed successively; no sloughing had taken place nor any separation of the flaps, as occurred after the first operation. Swelling having mostly subsided, the tongue is easily retained within the teeth, deglutition is easy, and patient sits up most of the day.

Convalescence progressed favorably till about the 10th of July, when patient began to complain of sore-throat, and to have fever, accompanied with restlessness, loss of appetite, &c.

July 12th.—The submaxillary glands are hard and tender, and the upper part of the neck much swollen externally.

July 16th.—Tongue is also a good deal swollen, rendering articulation very indistinct; deglutition is very difficult, and saliva flows freely from the mouth. Pulse 144. Flaxseed poultices are kept constantly applied to the chin and throat. Dover powder is given at bed-time.

July 19th.—The swelling is softening, and fluctuating points are perceptible. A spontaneous opening formed under the base of the tongue, and discharged pus freely into the mouth, affording great relief to the patient, and was followed by an abatement of the swelling and a very decided amelioration of all the symptoms. After this her recovery was rapid.

Before leaving the hospital, Mr. J. A. Bishop, dentist to St. Luke's, examined patient's mouth, and removed the incrustation of tartar from the teeth. Patient was also fitted with an elastic band, adapted to make upward pressure upon the lower jaw, with the view of aiding the restoration of the anterior portion of the lower jaw to its normal relations with the upper jaw, and re-establishing the contact of the front teeth with each other. She was directed to wear this bandage as much of the time as she could.

July 27th.—Patient was discharged, and returned to her home in Connecticut.

In the month of July, 1869, the author had an opportunity of examining this patient, and found her in a very favorable condition, as follows: The tongue, occupying the floor of the mouth, was of natural size, and held *in situ* by its inferior connections. When

the act of protrusion was attempted, it bowed itself upward and somewhat forward; its free extremity was rounded and thinned at its edges. The front teeth, above and below, had approximated, and were scarcely half an inch apart. Articulation was good and not noticeably affected. She attended school, and maintained a high standing in all her recitations as well as in vocal music. (See Fig. 2.)

Fig. 2.

Remarks.—The experience afforded by this case suggests to the author the following conclusions as to the best method of operating for hypertrophy of the tongue. The reduction of the excess in thickness rather than breadth of the organ being the important object aimed at in the operation, this is best accomplished by removing the redundant portion by transverse rather than vertical sections. In the case above narrated, a single operation, performed according to the method employed in the second operation, would have sufficed. The following specific directions, it is believed, may be advantageously followed in this operation: A strong ligature traversing the tongue, far back, is the most reliable mode of controlling the tongue and preventing its retracting within the mouth. The patient's head resting against the breast of an assistant, is held steady by one hand on each side, with the forefinger hooked in the angle of the mouth and retracting it. An additional assistant on either side holds the tongue forward by drawing upon the ends of the ligature traversing the tongue. The operator seizing the protruding portion of the tongue on either side with a vulsellum, compresses it laterally, and thus increases its thickness vertically. With a straight, long-bladed knife he transfixes the tongue far back within the mouth, midway between its upper and lower surfaces, and cutting forwards and downwards, forms the inferior flap. The superior flap is to be formed in the reverse direction. Applying the middle of the edge of the knife to the upper surface of the tongue, opposite to the end of the flap just formed, so that they shall be of equal length, he cuts backward and downward, and terminates this section where the first began. The tongue during the action of the knife being compressed laterally, the extremities of the flaps will be rounded and will correspond to each other. The tongue being under perfect control by means of the ligature traversing it, the bleeding arteries may be secured with almost the same facility as after the amputation of a limb. The flaps are to be approximated and secured with sutures in the usual manner. An important advantage of this method is, that the frenum linguæ not being involved in the section of the tongue, continues to perform its office undisturbed.

No. 46 W. Twenty-ninth St., N. Y.

OPERATION FOR THE RADICAL CURE OF HERNIA.

By C. C. F. GAY, M.D.,

Surgeon to the Buffalo General Hospital.

On April 22d, 1870, Charles Walls, aged eleven years, entered the surgical ward of the Hospital with double scrotal hernia, quite large, being congenital and reducible. The external ring was sufficiently large to admit two fingers of the hand.

On April 29th, I operated upon the right side, and six months thereafter there is, and has been, no escape of intestine from the abdominal cavity. My operation, it is believed, differs from that of any other heretofore made. I obtained the idea from Dr. Chisolm, of Charleston, S. C., and from Dr. Armsby, of Albany, N. Y. By conjoining the two methods separately proposed by these two gentlemen, the operation is made successful. Silver wire was used subcutaneously, after the plan suggested by Dr. Chisolm, and at the same time the silk seton was introduced, as recommended by Dr. Armsby.

The only instrument used was a strong, slightly-curved needle, about four and a half inches in length, with an eye at its point. To the needle was attached a strong handle.

Reducing the hernia, I gathered up upon the left index finger a fold of scrotum, carrying this before the finger to the margin of the abdominal ring. The needle was then thrust through the inferior column of the ring, its point carried over the superior column and out though the integuments, about one inch above the margin of the superior column; then threading the needle with silver wire, it was drawn back into the scrotum, and without entirely withdrawing it from the scrotal integument it was returned over the border of the inferior column, beneath and through the margin of the superior column, thus making the point of exit to correspond to the point of entrance; then removing the needle and twisting the wire, the ring was found to be sufficiently closed to prevent escape of intestine. I did not cut the wire after twisting it, and permit the end to escape beneath the integuments, but left the end projecting one inch or more in length. The next step in the operation was to introduce the silk seton. The seton was composed of six strands of ordinary-sized silk thread. When introduced, it extended from the fundus of the scrotum to two inches above the superior column of the ring, and was inserted by the same needle used in introducing the wire ligature. In inserting it, I raised upon the forefinger the scrotum at its fundus, and carried it up to the ring, partially invaginating it; then just behind the finger thrust the needle armed with the seton through the scrotum, through the superior column of the ring, and out through the integuments. Tying the ends of the seton it was allowed to remain until the tenth day. After removing it, the silver wire was twisted a little more tightly and clipped short, so that it disappeared from view beneath the integuments. There were no consti-

tutional symptoms after the operation, but considerable pain accompanied the local inflammation.

I operated by this conjoint method because I believed the wire ligature alone insufficient to effect a radical cure; that the wire alone would cause no local inflammation, but would act only mechanically to hold the columns of the ring in apposition; therefore the seton was used in order to excite local inflammation sufficient to agglutinate the parts permanently together.

The patient left the Hospital, and afterwards was treated by Dr. Boardman of this city for conjunctivitis.

On September 15th, or about this date, Dr. B., observing the wire about to ulcerate through the integuments, cut it out. On September 22d I examined the patient and found the ring closed and the cure perfect, there never having been at any time since the operation escape of the intestine.

Had the wire alone been employed, as recommended by Dr. Chisolm, I am of opinion that upon the liberation and escape of the wire the columns of the ring would have separated sufficiently to have permitted the descent of the intestine. The termination and successful result of the operation fully justify the method adopted.

HISTORY AND PRESENT STATE OF ELECTRO-SURGERY.

By GEO. M. BEARD, M.D.,

OF NEW YORK.

Electro-Surgery is that branch of electro-therapeutics which includes the electrical treatment of the diseases commonly known as surgical.

The principal surgical diseases and indications for which electricity, in its various forms and by its diverse methods of application, has been found of service, are:—

Aneurisms; varicose veins; strictures; hydatids of the liver; goitre; removal of tumors; cauterization of diseased surfaces; killing nerves; discussion of tumors; ulcers; fistulæ and sinuses; serous effusions; orchitis; enlargement of the prostate; *sprains; spondylitis* (Pott's disease); *pseudoarthrosis*; *hernia; morbus coxarius; toothache; hæmorrhoids; club-foot; exploration of wounds; dissolution of vesical calculi; extraction of foreign bodies; removal of poisonous metals; local anæsthesia.*

It was in the year 1825,* when the cause of electro-therapeutics seemed hopelessly lost, that Sarlandière† called renewed attention to this despised department, by proposing the employment of *electro-puncture*, in order to bring the current more directly to bear on the deeper tissues. The first experiments were made with statical electricity. The subject was afterwards studied by Magendie, who used *electro-puncture* with the galvanic current (galvano-puncture) in the treatment of various diseases. At first electro-puncture was used medically more than surgically. The treatment of aneurisms by this method was of a later date. The idea of causing coagulation of the blood by galvano-puncture was originally suggested by Scudamore, and in 1831, Guérard, Pravaz, and Leroy d'Etiolles proposed the treatment of aneurisms by this method, which was first practised by B. Phillips, about the year 1832.‡ In 1838 Liston became interested in the subject, and in 1839 Schuster successfully employed electro-puncture for the treatment of hydrocele, and other serous effusions, and in 1843 he reported his successes to the French Academy.

In 1839 and the following year also, Crussel, whose name is so prominent a figure in the history of electro-surgery, began his investigations on electrolysis. His experiments excited little interest in the profession. In 1843, also, Steinheil and Heider suggested the theory that the nerves of the teeth might be killed by placing a platinum wire, heated by the passage of a galvanic current, in the cavity; and in 1845 Heider first successfully employed this method. He used for this purpose one very large element of Grove. The operation took but a few seconds. In 1846, Crussel, whose name, as we have seen, is also to be remembered as the founder of electrolytic treatment, successfully removed, by the heated platinum wire, a "large fungus hæmatodes, situated in the frontal and ocular region."

In the same year, Petrequin, of Lyons, obtained the first successful result in the treatment of aneurisms by galvano-puncture. About this time also the same treatment was used by Bucci of Italy. The year 1846 may therefore be regarded as one of special significance in the history of electro-surgery.

In 1847, Bertani and Milani first treated varicose veins by galvano-puncture. In the same year Crussel published his method of treating ulcers by availing himself of the electrolytic powers of the galvanic current.

In 1852, Ciniselli, who still cultivates with distinguished success the department of electrolysis, first established by experiment that *the alkalies appear at the negative, and the acids at the positive pole.*

A great and important impulse was given to galvano-cautery by Middeldorpf, who, in 1854, published his celebrated work on the subject.*

In 1855, Demarquay removed a swelling of the submaxillary gland by galvano-puncture. In the same year Vergnes and Poey published their experiments on the removal of poisonous metals from the body by the electro-chemical bath.

In 1856, Boulu caused resolution of tumors in a number of cases by magneto-electricity applied by means of metallic disks. In the same year, Meding extracted mercury from a patient who had long suffered from mercurial poisoning, by means of the electro-chemical bath.

In 1858 and '59, Zsigmondi published the result of his successful experience with galvano-cautery after the system of Middeldorpf. In 1859, also, Delstanche Lehmann, Burdel, and Thevissen reported successes in the treatment of hydrocele by *farado-puncture.* In 1861, Braun and Von Grunewald introduced the galvano-cautery into gynæcology, where it has since been employed for the removal of polypi, excision of the cervix, etc. Both in the extent and the variety of his operations in this department Middeldorpf far surpassed all his predecessors. He devised a powerful, though somewhat bulky apparatus, as well as various burners and loops, for operating on different parts and organs of the body.

Galvano-cautery has been subsequently studied by various surgeons, and in different countries and with success; but up to the present time the work of Middeldorpf is the leading systematic treatise that has yet appeared on the subject. Middeldorpf is therefore to galvano-cautery what Duchenne is to localized faradization, or Remak to central galvanization. In 1867, Althaus† revived the attention of surgeons to the surgical powers of electricity, by reports of successful experiments in the treatment of nævi and tumors of various kinds by electrolyzation.

* Two years previously (1823), Prevost and Dumas had attempted with some success the dissolution of calculi of the bladder in animals.
† Mémoires sur l'électro-puncture. Paris, 1825.
‡ Erichsen's Surgery, p. 518.

* Die Galvano-caustic. Breslau, 1854.
† Tumors and other Surgical Diseases, 1867.

In the same year Mallez and Tripier published some very remarkable results in the treatment of strictures of the urethra after the method originally proposed by Crussel.

Surgical, unlike medical electricity, has been studied and pursued mainly by men of science, and the progress that has been made in it has been much more frequently the direct result of scientific observation and experiment. Those physicians who have made eras in medical electricity have done so by improving, developing, and introducing to the profession methods of treatment which, either by charlatans or others, had been substantially known and practised before them.

ELECTROLYSIS.

Electrolysis (ἤλεκτρον and λύω, to disengage) *is the act of decomposing a compound substance by electricity.*

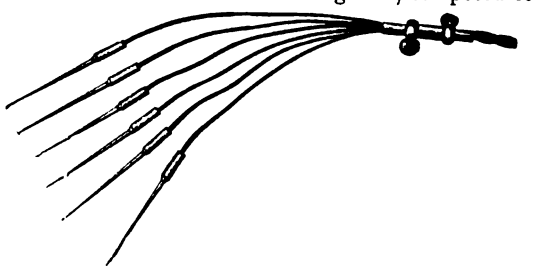
This electro-chemical decomposition takes place at both poles, but with different products and manifestations, according to the nature of the substance acted upon. If, for example, the two poles are introduced by needles into a blood-vessel, *acids*, with albumen, fibrin, etc., appear at the positive, and *alkalies*, watery extracts, iron, and coloring matter at the negative pole. When water is decomposed by the action of the current, *acids and oxygen* appear at the positive, and alkalies and hydrogen at the negative pole. Electrolytic action is chiefly obtained by the *galvanic current*, although the *magneto-electric* current, when generated in a properly constructed apparatus, has a decided electrolytic power. Statical electricity also has a feeble electrolytic power. For the purposes of electrolysis, intensity with moderate or fair quantity is required, such as is obtained by a considerable number of elements of medium size. The chemical effects of *statical electricity* were first investigated by Drs. Priestly and Cavendish in 1784, and the decomposition of water by passing through it a succession of discharges of statical electricity was first discovered in 1789 by Messrs Dieman, Paetz, Van Troostwyck, and Cuthbertson.

The electrolysis of water by the galvanic current was discovered in 1801 by Nicholson and Carlisle. Electrolysis of various inorganic substances was subsequently investigated by Sir Humphrey Davy, but especially by Faraday,* whose published researches in this department constitute one of the most interesting and valuable contributions to experimental science that ever proceeded from the pen of man.

Some of the uses of electrolysis—such as the discussion of malignant tumors—require more quantity of electricity than others. Any good combination of Daniell's or Bunsen's elements, or Siemen-Halske's elements, or of Smee's elements, of a good size, such as Kidder uses in his galvanic apparatus, will furnish sufficient quantity for nearly any required purpose.

The number of elements to be employed depends on the special purpose in hand. The general rule is, the larger the extent of tissue to be acted upon, or the harder it is, the greater the quantity or intensity of electricity required.

Deficiency of quantity or intensity in a battery may, within certain limits, be compensated by protracted application. The electrolytic power of any battery may be tested by the galvanometer, or by the rapidity and extent of its action on iodide of potassium, or acetate of lead, or chloride of sodium, or on the white of an egg, or on a piece of raw beef. For producing electrolysis in tissues beneath the skin, fine needles of gold or gilded steel are used. The conductors may be composed of two, four, six, eight, or more needles. Althaus has employed a conductor, a modification of which is represented in the following cut. This consists of a conducting wire, composed of



a number of small wires twisted, with a number of branches, each one of which is so arranged that it can be attached to a gilded needle after it has been introduced into the part to be treated. The needles should be insulated with vulcanite or some preparation of rubber and shellac for a portion of their length, so that they may not act on the skin, and so cause unnecessary pain and subsequent inflammation.

ANEURISMS.

The object in the electrolytic treatment of aneurisms is to secure a gradual deposit of the layers of fibrine. For this purpose the negative pole is by some thought preferable, although successful results have been obtained by the positive pole, or by both combined.

Two or three needles, connected with the negative pole by a subdivided electrode, are introduced into the aneurism, while a sponge electrode is applied to the surface near by. The length of the applications may range between 5 to 40 or 50 minutes, according to the strength of the battery and condition of the aneurism. From one to five operations are usually sufficient.

It is necessary to use an anæsthetic. Of all the (nearly 100) cases of aneurism treated by electrolysis, thus far reported, a little more than half have been successful. It is probable that future experiments, with improved apparatus and the better knowledge that comes from accumulating experience, will exhibit a greater proportion of successes.

VARICOSE VEINS.

Varicose veins have been treated electrolytically, and with both the positive and negative poles. Here I may remark that, in electro-surgery as in electro-medicine, the differential indications for the use of the poles are far, very far, from being reduced to an exact science. Electrolytic action takes place at both poles, and on the whole is more powerful at the negative; but is greatly modified by the nature of the substance acted on or the material of which the electrode is composed.

STRICTURES OF THE URETHRA.

Electrolysis for stricture was first used by Crussel, and subsequently by Willebrand and Wertheimer. The most important and successful results have been obtained by Mallez, Tripier,* and Brenner.† Their method of application is to introduce an insulated sound with a metallic extremity to the seat of the stricture, connecting it with the negative pole, while the positive is applied to the inner side of the thigh by a moistened sponge electrode. Usually from one to

* Experimental Researches in Electricity, London, 1839, 1844, and 1855. See also Noad's Lectures on Electricity, London, 1844.

* De la guérison durable de rétrécissement de l'urèthre. Paris, 1867.

† Untersuchungen und Beobachtungen auf dem Gebiete der Electrotherapie. Leipzig, 1868 and 1869. Bd. II, p. 263.

four applications are sufficient to overcome the stricture and allow the ready use of sounds. The operation is but little painful, and only in a minority of cases was there any hemorrhage. Mallez and Tripier have treated in this way 31, and Brenner 13 cases, and both agree that the operation is preferable to urethrotomy. Only a moderate strength of current—from 10 to 15 elements—is required.

In two of Brenner's cases febrile symptoms followed the operation.

In two of his cases, also, perineal abscess resulted. Out of the 44 cases, 2 proved fatal: one under Mallez and Tripier, from inflammation and fever, and one of Brenner's, where the autopsy showed that the electrolytic treatment was not the only cause of death, though it might have hastened it, since the patient was previously suffering from urethro-scrotal fistula.

Dr. Chadsey* has reported a case of retention of the urine caused by hard work and exposure to cold that yielded to faradization, with the positive pole applied against the stricture for 20 minutes by means of a knitting-needle in a gum elastic catheter.

In this case the result was due to the mechanical effects of the current, and not to any electrolytic action.

HYDATIDS OF THE LIVER.

According to Althaus, Dunham and Forster have treated eight cases of hydatid tumors of the liver with success by electrolysis.

GOITRE.

Makenzie of London speaks favorably of the electrolytic treatment of goitre in cases that are not of too long standing. The cystic variety he has found to yield more rapidly than the solid.

EXTIRPATION OF TUMORS AND DISEASED PARTS.

That polypi of the larynx and nasal passages can be very conveniently removed by the galvano-cautery is now well established, and, so far as is known, all who have ever attempted this method of treatment are pleased with and disposed to return to it. The same method has been employed by Jacoby† for the removal of growths in the external auditory canal.

Brenner‡ has given full details of a successful case of amputation of a diseased tongue, in a patient 62 years of age, by the galvano-cautery, and Dr. James Adams, by the same method, has removed an epithelioma of the side of the tongue without loss of blood.§

Dr. Robert Lee reports a case of scirrhus of the right breast that had reappeared after two operations.

Drs. Kammerer and Guleke‖ report two successful amputations of the neck of the uterus by the galvano-cautery.

DISCUSSION OF TUMORS.

Tumors may be discussed by all forms of electricity, and in all methods of application.

1st. By galvanic chains or belts. 2d. Faradization. 3d. Galvanization. 4th. Electrolyzation. Of these methods the last is decidedly the most effective; and yet that very decided results in the discussion of tumors can be obtained by simple external faradization frequently repeated we have abundantly demonstrated in a variety of instances. Meyer, Hassenstein, Boulu, and Duchenne report similar experience. The tumors most disposed to yield to external faradization are the glandular and cystic varieties. *Lipoma* is the most obstinate of all the varieties on which we have experimented.

Nævi have been treated electrolytically and with absolute success by Althaus,* etc. Of *erectile* tumors we have records of two cases that have been treated by electricity. A large vascular tumor was removed during the last year, at the hospital of Gesu Maria, Italy, by galvano-puncture. The details of the case we have not seen. Very recently Drs. Sass and Lincoln† of this city have very successfully treated a venous erectile tumor of the neck.

MALIGNANT TUMORS.

The electrolytic treatment of cancer has for several years been studied by Althaus, who states that under treatment by the negative pole "the peculiar lancinating pains of cancer generally seem to disappear, or at least to diminish considerably, soon after the commencement of the electrolytic treatment, and long before the whole tumor is destroyed."

Sept. 1, 1866, we treated by faradization a case of tumor of the right breast that was quite hard, and was accompanied by severe lancinating pains. It had gradually increased in size until it was about as large as a hen's egg. The patient stated that a number of medical men of the West had seen the tumor, and all had pronounced it to be a cancer, and had advised its extirpation. As an experiment purely, and in the hope only of being able to relieve temporarily the pain, we tried faradization of the tumor. After the second application it became softer, there was a manifest diminution in size, and the pain was notably diminished.

After the fifth application, Sept. 14th, both the tumor and the pain had entirely disappeared. The patient left the city overjoyed with the result. Since that time we have heard nothing from her, and for that reason the case loses much of its scientific interest. So far as it goes it is an encouragement for other experiments in the same line. That faradization can relieve the lancinating pains of cancer we have demonstrated in the case of a lady of middle age, who in 1867 consulted us for a tumor of the right breast, which for a number of months had caused her great distress. The diagnosis of malignant tumor was confirmed by Dr. W. H. Van Buren, who also advised against an operation. The patient was treated by general and localized faradization, with the result of greatly relieving her pain as well as improving the appetite, sleep, and muscular strength.

The patient left the city, and we had no opportunity to give special attention to the tumor.

The same department has also been studied by Drs. Neftel,‡ Jacobi§ (who states that he has seen suffocation produced during the treatment), and others.

FARADO-ELECTROLYZATION.

I have used this term to designate the *simultaneous* use of external faradization, and electrolyzation with needles, which method I am now employing in a case of undoubted scirrhus of the breast, referred to me by Dr. Stephen Rogers. Sloughing has appeared, and the tumor has apparently been made smaller and softer by the treatment, and the pains have certainly diminished. The patient is still under treatment, and will test, so far as a single case can, the comparative advantages of the different methods.

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* N. Y. Medical Journal, Feb., 1869, p. 574.
† Archiv für Ohrenheilkunde, V. I.
‡ Loc. cit., p. 285.
§ Lancet, October 29, 1870, p. 602.
‖ Thomas on Diseases of Women, p. 518, 1869.

* Tumors and other Surgical Diseases. London, 1867.
† MEDICAL RECORD, Dec. 15, 1870.
‡ MED. RECORD, Oct., 1870.
§ *Ibid.*, Sept. 1st, 1869, and October, 1870.

The facts variously accumulated and now accumulating on this subject seem to justify these conclusions:—

1st. Malignant tumors, scirrhous and encephaloid—at least in certain stages, and in a proportion of cases—may be discussed, both by external faradization and electrolyzation—possibly also by external galvanization. Of these methods, faradization is the more convenient, and is but little, if at all, painful, and does not interfere with ordinary duties; but in most cases of scirrhus it would probably fail. Electrolyzation is the most rapid and effective; but it requires local and general anæsthesia, and may produce suppuration and unpleasant after-effects that may require absolute rest.

2d. Both of these methods may have a decided effect in relieving the pain, even when they do not succeed in entirely destroying the tumor.

3d. Patients afflicted with malignant tumors, as with many other serious diseases, would probably be susceptible of improvement in their general condition by general faradization, even when no attention is given to the local disease.

4th. The great and important questions, whether the tumors return as speedily as after removal with the knife, or whether they return at all, or what proportion of cases will be successful, and in how advanced stages, can only be answered by a large number of cases carefully treated by various methods, and closely watched for years by observers in whose capacity and honesty the profession repose unfaltering confidence.

ULCERS.

The earliest systematic attempts to treat ulcers by electricity were made by Crussel, in 1847, although as early as 1803 Mongiardini and Lando had treated gangrene electrically.

The same treatment has been used in syphilitic ulcers by Kyber of Cronstadt, Rosenberger of St. Petersburg, and in the majority of their reported cases with success.

Spencer Wells has also used galvanism with success in the treatment of ulcers. He employed zinc and copper, or silver plates connected with a wire.

Ulcers may be treated with both currents. The best form of electrodes is metallic disks or plates. These can be varied in shape or size according to the locality of the ulcer. Stable applications should be used, with a current very gradually *increasing*. The applications should be short, and need not be excessively painful. In some cases decided results may follow a single application of electricity to an ulcerated surface. Ulcers may also be cauterized by the galvano-cautery.

In the treatment of ulcers, and indeed of many conditions, it is a convenience to have an electrode kept in a fixed position without the aid of the physician or of an assistant. For this purpose I have devised a series of adjustable electrodes, provided with rubber bands of different lengths which can be passed around the body. They may be of various sizes, and like other electrodes may be covered with sponge, linen, flannel, or chamois. The smaller sizes are for the arms and legs, and back of neck; the larger for the back and coccyx, and may be used in general electrization instead of the copper plate at the feet. Of the other surgical diseases I have only space to remark that *fistula* and *sinuses* have been treated by the galvano-cautery; that *serous effusions*, synovitis, hydrocele, pleurisy, yield sometimes very rapidly to faradization, galvanization, or to electrolyzation; that *orchitis*,* acute and subacute, has been satisfactorily treated by galvanization; that *sprains* are relieved both by galvanization and faradization; and that the slight anæsthetic effects of faradization with strong currents are so demonstrable that it seems surprising that they should ever have been seriously doubted.

An important distinction between medical and surgical electricity is this, that nearly all the surgical diseases for which electricity is employed have been treated with more or less success by other methods, while in many of the medical diseases in which electrization has been most successful, it has been the chief, and in some the only dependence.

Finally, it should not be forgotten that the surgical successes achieved by electricity have been of great service to electro-therapeutics in general. A surgical operation appeals to the eye and to mechanical skill, while medicine appeals more to the higher and rarer qualities of reason and imagination. Many who fail to comprehend a complex medical fact or principle may be fascinated and carried to enthusiasm by whatever strikes the senses. Hence we find that the suggestion of electro-puncture in 1825 revived an interest in electricity that its purely medical applications failed to sustain, and from that time to the present the fortunate operations of galvano-cautery and electrolysis have aroused the attention of many who had no faith in and no comprehension of the remarkable powers of electricity over nutrition.

* The electrical treatment of orchitis has been studied by Drs. Jules Chéron and Moreau-Wolf (*Du Traitement de l'Orchite*, etc. Paris, 1869.) In one case of chronic orchitis I have confirmed the results which they claim.

Progress of Medical Science.

UROMALANINE, a blackish brown powder, void of form and color—is as interesting to the pathologist as its congener is to the physiologist. It owes its name and quantitative analysis to Dr. Thudichum. This observer obtained it in large quantities by the chemolysis and physiolysis of urine. He gives it the very complex formula, $C_{36}H_{43}N_7O_{10}$. Dr. Smith believes there is very little doubt that this substance is identical with the pigment of the skin in health and disease, and that, when an excess of the compound, from which it is derived, exists in the blood, a parallel excess of this, or rather of an intermediate substance, will occur in the urine. If this be so, all morbid pigmentations of the skin are to be classed in two divisions.

1st. Pigmentations due to temporary excess of uromelanoid pigment or pigment-forming substances in the blood.

2d. Pigmentations due to the abnormal attraction of the normal pigment, or the pigment-forming matter to the skin.

Of the first division he knows of one example only. The morbid pigmentation of the skin, which is the accompaniment and consequence of the accumulation of pigment in the spleen that occurs in some cases of malarious fever—a phenomenon described by Frerichs, in his section on pigment liver, and before him described by Addison. Parenthetically, he would like to know whether it is on record that, in cases of *melanotic cancer*, pigmentation of the skin has been observed. It seems possible that these tumors might act as reservoirs of pigment, just as the spleen has been shown to act; in this case a second example might be added to the first division.

Of the second division very many examples suggest themselves, viz.: lentigo, or freckles; ephelis, or tanning; nævi materni; chromidiosis, a disease mentioned by Hardy; the pigmentation which accompanies long-continued dermatosis; the pigmentation of the nipples of pregnant women; the pigmentation fol-

lowing epigastric applications; the bronze skin of morbus Addisonii.

A Simple Method of Estimating Uromelanine.—Wm. Frank Smith, M.B., Physician to the Sheffield General Infirmary (*Journal of Cutaneous Medicine*), estimates the uromelanine producing substance in the urine as follows:—A given quantity of urine is diluted with an equal measure of distilled water, to this is added a definite quantity of sulphuric acid, sp. gr. 1.843. The mixture is allowed to stand for ten minutes exactly, and then added from a burette to water in a tube connected with a candle-light of constant illuminating power by a simple optical apparatus. At the moment that the light is obscured to a certain extent, indicated by the disappearance of an opaque line, the burette is examined, and the relative quantity of uromelanine read off.

New Method of Corelysis.—G. Passavant (*Arch. f. Ophthalmol.*, XV., I., p. 259 & f.) describes a new method of corelysis (detachment of posterior synechiæ), which he practised with unvarying success in some fifty cases of small adhesion between the iris and lens capsule, and also sometimes between the iris and central portion of the cornea. He makes a small peripheric incision through the cornea, enters with a pair of blunt-toothed iris forceps, seizes the iris near the adhesion, and tears the latter from the lens capsule. No prolapse of iris through the corneal wound had occurred, and a round movable pupil was obtained. In cases where several synechiæ exist several operations are necessary.

Schmidt's Discovery.—Dr. H. D. Schmidt, of New Orleans, La., in his "Microscopical Anatomy of the Human Liver," asserts his priority as the discoverer of the tubular nature of the radicles of the biliary passages. Lately this network has been represented by Legros to be the *bile-secreting* apparatus, while the hepatic cells subserve other functions of the liver.—*St. Louis Med. and Surg. Journal.*

Hæmatoma Auris.—Sanguineous tumor of the external ear has been observed often as a concomitant of insanity. M. Ferrus, in France, and Bird, in Germany, first called attention to it in 1838. Dr. E. R. Hun, of the N. Y. State Lunatic Asylum, reports (*Am. Jour. Insanity*) twenty-four cases of this affection. It occurred twenty-three times in men and only once in women.

Retinal Changes in Bright's Disease.—John Green, Med. Prof. of Ophthalmology in the St. Louis College of Physicians and Surgeons (the St. Louis *Med. and Surg. Journal*), reports four interesting cases of Bright's disease in which the changes in the retina, as revealed by ophthalmoscopic examination, first aroused the suspicion of renal trouble.

These cases illustrate the most important features of the amblyopia of Bright's disease. The one constant subjective symptom is failure of vision, which may be so slight as scarcely to attract notice, or so great as to incapacitate the patient from guiding himself. This may appear at any stage of the disease, and may increase and diminish or even almost entirely disappear after having reached nearly total blindness, while the fatal malady is steadily marching onward to its inevitable termination. It is absolutely painless in all its stages, and is marked by no external sign of inflammation. The diagnosis of albuminous retinitis by the ophthalmoscope is usually a matter of great simplicity. The principal source of possible mistake lies in the close resemblance which some cases of this disease bear to infiltration of the disc of the optic nerve and the retina immediately around it, occurring simultaneously in both eyes from obstructed venous circulation dependent on intra-cranial pressure from effusion, etc.

Stoddart's Chemico-Microscopic Test.—W. Walter Stoddart, F.C.S., Prest. British Pharmaceutical Conference, Liverpool (*Chemist and Druggist*), advocates the subjoined *chemico-microscopic test:* Into an ounce of distilled water drop 10 drops of dilute sulphuric acid (B. P.). To this add 14 grains (or as much as will saturate the acid) of the suspected salt. Filter through paper, and to a little of the filtered solution add a few drops of sulphocyanide of potassium (1.80 grains in 1½ ounces of water). An immediate precipitate of the several alkaloids takes place, each of which is distinct and characteristic. If quinia and cinchonia be present they will be all seen on the slide, becoming more and more distinct during the first hour.

Prolapse of the Umbilical Cord.—Four hundred cases of this difficulty have been collected by Dr. Massmann (*Praktische Arzt*), of which forty came under his own observation in Breslau. Scanzoni has said that prolapse of the umbilical cord happens once in 254 births. Massmann estimates it at one to 123 births. According to Scanzoni, the death of the child occurs in fifty-four per cent. of the cases, while Massmann believes that death happens in forty-five per cent. The child dies asphyxiated.

The Anterior Fontanelle.—Dr. Coggswell reported at Waltham, Mass. (*Boston Med. & Surg. Journal*), a case of a man of 45, in whom the anterior fontanelle and the sagittal suture were open, so that the pulsations of the brain were felt. He was subject to severe headaches, which his wife treated successfully by approximating the edges of the parietal bones by strong manual pressure. When seen, the patient had just had an epileptic attack, but had never suffered from such attacks previously.

Chloral in Midwifery.—Dr. Lambert, late House-Surgeon to the Edinburgh Maternity Hospital (*Edinburgh Med. Journal*), arrives at the subjoined conclusion, in regard to the administration of chloral in cases of labor: Chloral is an agent of great value in relief of pain during parturition. It is demonstrated that a labor can be conducted from its commencement to its termination, without any consciousness on the part of the patient, under the sole influence of chloral. The exhibition of chloral in nowise interferes with the exhibition of chloroform. The proper mode of administering chloral is in fractional doses of 15 grains every quarter of an hour until some effect is produced; and according to the nature of that effect the further administration is to be regulated. Some patients will require doses of one drachm; and it is better to produce an anæsthetic effect by three drachms given in the space of two hours, than by one drachm given singly.

This agent rather promotes uterine contraction, by suspending all reflex actions which tend to counteract the incitability of the centres of organic motion.

Labors under chloral will probably be found to be of shorter duration than when natural. The general conditions under which chloral is to be administered are the same as those which regulate the administration of chloroform, and the rules laid down by the late Sir James Y. Simpson, M. D., in connection with this subject must be rigidly adhered to.

Amputations in Pennsylvania Hospital during Forty Years.—In 749 amputations, upon 735 patients, performed during the 40 years from 1830 to 1870, 548 were cured, and 186 died, and 1 removed. 500 were primary operations, performed during the first 24 hours after the accident, of which 117 died; 105 were secondary, of which 42 died; 114 were for diseases of a chronic character, of which 27 died; 232 of the patients were under 20 years of age, of whom 206 were cured, and 26 died; 217 were between 20 and 30, of whom 164 were cured, and 53 died; 152 were between 30 and 40, of whom 105 were cured, and 47 died; 87 were between 40 and 50, of whom 56 were cured, and 31 died; 44 were upwards of 50, of whom 23 were cured, and 21 died.

Of 50 arm amputations, 34 were cured and 16 died.

Of 2 elbow-joint amputations, 2 were cured.

Of 48 forearm amputations, 42 were cured and 5 died, 1 removed by request.

Of 23 wrist and partial of hand amputations, 23 were cured.

Of the 321 amputations, 239 were primary; of these 176 were cured, 63 died; 22 were secondary operations, of these 11 were cured and 11 died; 60 were amputations for chronic diseases, of these 51 were cured and 9 died.

61 amputations were done at the joints, of these 44 were cured and 17 died.

134 were amputations of the lower extremities, of these 111 were cured and 23 died.

187 were amputations of the lower extremities, of these 124 were cured and 63 died.

114 patients were under 20 years of age, of these 98 were cured and 16 died.

84 patients were between 20 and 30, of these 63 were cured and 21 died.

65 patients were between 30 and 40, of these 45 were cured and 20 died.

25 patients were between 40 and 50, of these 16 were cured and 9 died.

23 patients were above 50 years of age, of these 7 were cured and 16 died.

Dr. Thomas George Morton, one of the attending surgeons (*Am. Journ. Med. Sciences*), reports that ether has been almost invariably used as the anæsthetic, and no death has, he believes, ever occurred in the hospital from its use; occasionally ether has been combined with chloroform; one sudden death, however, occurred with the use of this mixture, during the removal of a fragment of necrosed bone following a leg amputation; the nitrous oxide gas he has used in very many minor operations, and in 8 amputations of limbs, and has found it satisfactory when the operation was not prolonged.

Uterine Fibroid of the Posterior Wall Successfully Removed.—A Reeves Jackson, M.D., Chicago, Ill. (*Chicago Med. Journal*), recently successfully removed, by surgical treatment, from an unmarried woman, aged twenty-four years, a uterine interstitial fibroid tumor of the posterior wall, about the size of the gravid uterus at the fifth month.

Abdominal Viscera.—In children tubercles in the solid organs of the abdomen rarely give rise to appreciable symptoms, as they are small and disseminated, not impairing materially the function of the part in which they are located. On the other hand, peritoneal and intestinal tubercles, and the enlarged and cheesy mesenteric glands, give rise to symptoms which require description. The most frequent seat of peritoneal tubercles is upon the attached surface of the peritoneum, where they are formed from the connective tissue. They are distinctly seen through the peritoneum, and cause some prominence of it. Exceptionally their seat is upon its free surface. Every portion of the peritoneum, whether visceral, parietal, or omental, is liable to tubercles, but general tuberculization of so extensive a surface does not occur in any one case. The tubercles are spherical or lenticular, and most of them small. Sometimes they are very numerous, but so minute as to be scarcely visible. They are gray or yellow, according to the age. Peritoneal tubercles often produce circumscribed peritonitis, causing adhesion of opposite surfaces. The tubercles in themselves cannot be detected by palpation; but masses or *plaques* composed of tubercles and inflammatory products are sometimes so large that they can be felt through the abdominal walls.

The symptoms of peritoneal tuberculosis are attributable, for the most part, to the peritonitis. Among them may be enumerated abdominal tenderness or pain, meteorism, ascites—usually slight—and derangement of the bowels, commonly diarrhœa. As tubercles in this situation occur, in most cases, subsequently to tubercles elsewhere, the symptoms which have been described are associated with and are subordinate to others.

Synclitism.—Dr. Hugh L. Hodge, of Philadelphia (*Am. Jour. Med. Sciences*), in answer to some clinical remarks by Dr. J. Matthews Duncan, in *Edinburgh Med. Jour.*, on what M. Kueneke terms the synclitic movement of the fetal heart, asserts that synclitism, or parallelism of the plane of the pelvis and of the vagina, is one of his favorite doctrines, and has been taught by him with more or less fulness and precision since the year 1833. His confidence in its truth has been continually strengthened by careful observation.

A Case of Idiopathic Abscess of the Liver.—Dr. Oscar J. Coskery (*Baltimore Med. Journal*) reports a fatal case of idiopathic abscess of the liver, occurring in a German shoemaker, aged 27 years. There are several points of interest connected with this case:—1st. The development of an idiopathic abscess in this climate. Indeed, Murchison calls them tropical abscesses. 2d. The absence of any former attack of dysentery. By many the abscesses are thought to be pyæmic deposits from that disease. 3d. The presence of the phenomenon first pointed out by Mr. Twining, and by him thought to be pathognomonic, the permanent rigidity of the right rectus muscle. To what is this due? He does not think to any special nerve influence, but to the involuntary effort of nature to shield an inflamed and sensitive part. This symptom, however, first caused him to suspect abscess. 4th. The quantity of discharge at first puncture, and the small size of the cavity after death. 5th. The total absence of putrefactive changes in first discharge, after being kept so long. This disposed him to believe bile present, though there was no response to the test. 6th. The total absence of icterus all through. 7th. The total absence of pain anywhere, except immediately over point of puncture, the end of the eleventh rib. 8th. The total absence of coloring-matters of bile in discharge and urine. 9th. The quantity of discharge (90 ounces) during sixteen days subsequent to puncture. 10th. Where did the pus discharged by rectum come from? Certainly not from the abscess in the liver.

Hydrochlorate of Quinia in Hooping-Cough.—Dr. Briedenbach (*Lancet*) calls attention to this remedy in hooping-cough when other means have failed. Binz has already recommended it, and states that it should be administered in comparatively large doses.

FARADIZATION.—A writer in the *Medical News and Library* makes use of Faradization, as a means of diagnosis between hysteric hyperæsthesia and the true neuralgia. It has a strikingly inactive effect in the former, but acts much more slowly, or not at all, in true neuralgia.

THE USE OF RAW MEAT IN DIARRHŒA AND DYSPEPSIA.—Dr. Robert Druitt, M.R.C.P. (*Med. Times and Gazette*), first learned the use of raw meat as a remedy for diarrhœa, from the late Professor Trousseau, in 1851, and since that visit to Paris he has had, with others, abundant opportunities of proving its efficacy. It is useful in infantile "cholera," chronic diarrhœas of children, habitual diarrhœa associated with "marasmus," obstinate vomiting of pregnancy, cases of atrophy, dyspepsia, and mal-nutrition.

WHEN TO GIVE ARTIFICIAL FOOD TO INFANTS.—Dr. Brinton (*Trans. Lond. Obstet. Soc.*), advocates giving artificial food to babies, such as corn-flour with milk, when the first teeth come and the child begins to bite its mother's nipple. When the child's mouth is toothless, its office is to suck the breats. He orders milk and water until the teeth appear, to infants brought up by hand.

THE REMOVAL OF MECKEL'S GANGLION.—The propriety of removing Meckel's ganglion, for the relief of neuralgia of the second branch of the fifth pair of nerves, is discussed by Dr. P. S. Connor, Professor in the Medical College of Ohio (*Am. Journ. Med. Sciences*). Of the whole number of reported operations (13), pain is known to have recurred in seven cases.

REPORTED CASES OF SOLITARY KIDNEY.—The Committee appointed by the Pathological Society of Philadelphia, to collect cases reported of solitary kidney, present twenty-five undoubted cases, in addition to the fourteen of Mosler, making thirty-nine cases collected by them. Of the twenty-five undoubted cases the left was absent in seventeen instances; the right in four; five cases are uncertain; while in Mosler's cases the deformity was found about equally upon the two sides.—(*Amer. Journ. Med. Sciences.*)

A HIGHLY-RECOMMENDED PROSTATIC CATHETER.—Dr. F. F. Maury, Surgeon to the Philadelphia Hospital (*Med. and Surg. Reporter*), recently exhibited and recommended, at his clinique, Dr. T. H. Squire's vertebrated prostatic catheter, which consists of a straight tube terminating in ten metallic caps or vertebræ. The last of the tubes is fenestrated. A wire runs within the tube attached to either end.

This instrument is easy of introduction, and drops naturally to the bas-fond of the bladder, so as to draw off all the urine. Dr. H. Lyle Smith, of Hudson, New York, writes that it has been successful in his hands.

A CASE OF KELOID.—Dr. F. F. Maury, of Phildelphia (*Med. and Surg. Reporter*), has under his observation one of the most rare cases of keloid that has ever presented itself in that city. The patient is a negro, 28 years of age. The huge growth encircles his neck like the foldings of a snake. There are 37 growths, of variable size, of a tomato-like outline upon his body. These tumors have been removed repeatedly, and their recurrence observed.

He regards this affection as undoubtedly keloid, an affection of the skin first described by Alibert in 1810. A section of this tumor resembles the section of a turnip with a fine grain.

MESENTERIC GLANDS.—Though the mesenteric glands undergo similar changes to the bronchial, the symptoms to which they give rise are quite dissimilar. The abdomen, in some patients, retains nearly its normal size; in others it is distended with gas. It does not have the tension and fulness which are so often present in peritoneal tuberculosis. When the disease is somewhat advanced, and the abdominal walls are emaciated, the enlarged mesenteric glands can often be detected by digital examination. The tumor produced by the aggregation of the glands is seated in the umbilical region, and it presents rounded prominences readily appreciable by the touch. The absence of a tumor obviously affords no proof that the glands have escaped the disease, as they may be diseased without being sufficiently voluminous to be detected. The glands are ordinarily more or less tender on pressure.

Extensive disease of the mesenteric glands, interfering materially with the process of assimilation, involves a greater degree of emaciation than would result from the general tubercular affection. The tongue is moist, appetite good, sometimes voracious, and the food is retained; diarrhœa is commonly present, but this is attributable to intestinal inflammation and ulceration, which commonly accompany the glandular disease. The intestines, on account of the depth of the mesentery, and their consequent mobility, are rarely, perhaps never, compressed by the glands; but their movements are sometimes restrained by adhesions. Rarely a softened mesenteric gland forms attachments to the intestines and is evacuated by ulceration. If, in such cases, the intestine becomes detached from the gland, fatal peritonitis results. An occasional result in advanced cases is compression of the ascending cava, causing distension of the veins of the abdominal walls, and lower extremities, and anasarca.

MANAGEMENT OF INGUINAL HERNIA.—Dr. Warren Stone, of New Orleans, La. (*Galveston Med. Journal*), advocates in recent cases of inguinal hernia, the simple operation of section, which consists simply in passing the finger up to the point of stricture, and forcibly thrusting it into it, either lacerating it or dilating it, so as to relieve the bowel. But if these means fail, it is almost as simple to cut down through the integuments and superficial fascia, and to divide the stricture outside of the hernial sac. There is no necessity for making the incision so long as is usual when the sac is opened, though it is well to make it ample. The hernial sac can be exposed without the slightest risk. Its simplicity is not its only advantage. The bowel is more easily returned when enclosed in the serous sac than when exposed to direct manipulation. Serous membranes are easily excited by handling.

CARBONATE OF AMMONIA IN RUBEOLA.—Dr. A. D. Boggs (*Galveston Med. Journal*) writes that he has successfully treated, during the past winter and spring, nineteen cases of measles with carbonate of ammonia. The ages of the patients were as follows:—Under 10 years, 5 cases; between 10 and 15 years, 5 cases; between 15 and 25, 5 cases; between 25 and 40 years, 2 cases; over 40 years, 2 cases.

In every case the ammonia was administered in simple solution, in doses varying from two to ten grains, every two, three, or four hours, according to the age of the patient and severity of attack. In not a single case was there any of the usual sequelæ of this affection, and in all the recovery was rapid and uninterrupted.

The injunction of Dr. Erasmus Wilson was carried out fully, viz.: "It is important, in the administration of ammonia, that it should be given alone; that nothing should be permitted in the diet of the patient that could neutralize its effects, such as acid drinks and fruits."

THE MEDICAL RECORD.

A Semi-Monthly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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New York, January 2, 1871.

THE MEDICAL AND SURGICAL HISTORY OF THE LATE WAR, AND THE REPORT OF SURGEON-GENERAL FOR 1870.

AMONG the Executive documents submitted with the President's Message at the commencement of the third session of the forty-first Congress there is one which is of special interest to us and to the medical profession, namely, the Report of the Surgeon-General for the fiscal year ending June 30, 1870—a copy of which is now before us.

This Report contains among other things an answer to the very important question which we have often heard, viz., Where is the Medical and Surgical History of the War? and is it to be published?

This report states that "the printing of the Medical volume of the first part of the Medical and Surgical History of the War is near completion. This volume embraces the statistical tables representing the sickness, mortality, and discharges from service on Surgeon's Certificate of Disability, of *white* and *colored troops* during the War, and will be a work of nearly seven hundred and fifty (750) pages, quarto. To secure accuracy, the tables were stereotyped as they were finished, and before finally sending them to press they have been thoroughly revised throughout, and every effort made to make them complete. With this volume will be bound the appendix to the first part of the Medical and Surgical History of the War, containing the reports of Medical Directors, and other appended documents—about four hundred (400) pages.

"The whole of the manuscript for the Surgical volume of the first part of the Medical and Surgical History of the War, authorized by the Act of Congress, approved March 3, 1869, is now prepared, and several of the more important subjects that would belong to the second volume, as, for example, the tabular statements, discussions, histories of typical cases (with illustrative wood-cuts and lithographs), of twenty-nine thousand five hundred and seventy-two (29,572) cases of amputations, and four thousand seven hundred and seventy-five (4,775) excisions, are nearly perfected. Besides this, the surgical statistics of the Army for the five years succeeding the war have been consolidated and arranged for publication, and much information has been furnished to authenticate just claims of applicants and to defeat those that were fraudulent under the Act of Congress authorizing the issue of artificial limbs to mutilated soldiers and seamen. The effect of this law, in bringing to Washington a large number of pensioners to present their claims, has permitted the study of the remote effects of injuries and mutilations. The peculiar value which the surgical data of the late war have acquired in consequence of the measures taken to trace the ulterior results of the more important cases cannot be overestimated. In the reports of the surgery of European wars, and of campaigns in India, Abyssinia and elsewhere, the history of cases terminated when the men were invalided or discharged. Although the elaborate reports of the casualties of the French armies in the Crimean and Italian Wars were published in 1865 and 1869, after an interval of ten years from the conclusion of hostilities in each case, no information is given subsequent to the date of discharge or pension."

"The abstracts of cases in this Office are invariably traced to the date of publication."

It appears, therefore, that we may expect soon to see the first instalment of this valuable work. The publication of the remaining portion depends upon the action of Congress, and we sincerely hope that the necessary authority and means will be granted during the present session.

The only manner in which Congress can judge of the great value and desirability of such a work is by the opinions of professional men upon such samples or extracts from it as have been already published. These are furnished in a memorandum of extracts from letters, reviews, etc., by some of the most prominent men in this country and Europe, which accompanies the Report; and we can assure our legislators that there is no higher tribunal for judgment as to the merits of such work as has been and is proposed to be done, under the direction of the Surgeon-General, than the authors of the letters and reviews above referred to. These gentlemen reflect truly the sentiments of the entire profession of the country.

The reports of sick and wounded furnish the following results:—The average mean strength during the year was 29,022 white, and 3,407 colored troops. Among the white troops 53,836 were taken on the sick report for disease, and 8,744 for wounds and accidents. The number constantly on sick report was 1,419. The total number of deaths reported was 374, —249 from disease, and 125 from wounds and injuries. 745 white soldiers were discharged for disability. Among the colored troops, 5,479 cases of disease, and 729 wounds and injuries are reported. The number constantly on sick report was 178. The number of

deaths was 66,—51 from disease, and 15 from wounds and injuries. 104 colored soldiers were discharged for disability.

The marked difference between the mortality of white and colored troops is an interesting fact meriting full discussion, which we hope it will receive at no distant day.

Ethnologists will be glad to learn that "the collections now include eight hundred and ninety-seven (897) human crania, and thirty-four (34) skeletons. Elaborate tables have been prepared, exhibiting their measurements. The diameters, facial angle, internal capacity, and position of the *foramen magnum* are indicated for each cranium. It is hoped that the publication of this important contribution to anthropological knowledge will be authorized by Congress. The tables, arranged to correspond with those published in the *Crania Americana* of Samuel George Morton, would worthily supplement that great work. The Museum possesses a larger number of skulls from tumuli, and of crania of North American Indians, than are elsewhere collected, and it would appear due to ethnologists throughout the world that descriptions of the specimens should be published, as was done by the Russian Government for the collection of Professor von Baër at St. Petersburg."

We hope that the authority asked for will be granted, for there can be no question as to the desirability of such a publication.

We are sorry to learn that the law stopping appointments and promotions in the Medical Corps is still in force. The number of vacancies at present is 2 surgeons and 46 assistant surgeons.

"The number of Commissioned Medical Officers available for duty with troops on the 30th of June, 1870, was one hundred and forty-seven (147); on leave of absence, four (4); on sick leave, four (4). The estimated number of troops in service at that period was thirty-two thousand four hundred and twenty-nine (32,429). There were two hundred and seventeen (217) military posts, besides numerous detachments serving in the field and on outpost duty, each requiring a medical officer. The number of Commissioned Medical Officers being inadequate, Contract Surgeons are employed, as heretofore; but it would be more economical and satisfactory to be able to fill the existing vacancies in the regular Medical Staff of the Army. So long as our extended frontier exists, with its isolated military posts and moving detachments of troops, so long will the Medical Staff be required to be kept up to the standard number allowed by existing laws, and any reduction of that number will be prejudicial to the best interests of the military service."

Congress should repeal the law, and allow these vacancies to be filled up. It is very bad policy and poor economy to discourage the members of the Medical Staff proper, and to compel the employment of an increased number of men who cannot be required to possess the education and knowledge which is guaranteed by having passed an examination before a regular army board.

There are several other points of interest in this report, but we shall refer to but one, namely, the cost of the Medical Department, which is very much smaller than we had supposed; the current expenses during the year being only a little over 236,000 dollars. We suppose this is due to some extent to the fact that there must have been a large stock of supplies on hand, left over from the war; but when we consider that the number constantly sick was 1,597, giving 582,605 of treatment, and that these men were scattered by twos and threes from Florida to Alaska, it must be admitted that forty cents per day is a very moderate allowance.

A DIFFICULTY between the managers of the Nursery and Child's Hospital of this city and Dr. Jacobi has terminated in the expulsion of the latter by the medical staff. Such a statement sounds strangely to those who know Dr. Jacobi professionally and personally, but the facts upon which the assertion rests are stranger still. It seems that the gentleman in question took occasion in a lecture to some students to speak of the peculiar affections that were to be met with in such institutions, due in a great measure, as in this instance, to their faulty construction, want of ventilation, and other matters well enough appreciated by every physician. These remarks gave offence to the managers, who, by a communication to the Medical Board, requested his resignation. As the constitution provides that all medical affairs shall be in the hands of the staff, it was necessary to commence the action in this way; at the same time the managers threatened, in case the request was not granted, to alter the constitution in such a manner as to give them the power to act under such circumstances of their own accord. Naturally enough, reasons for such a communication are asked by the staff, and a solicitation for specific charges made. A Committee of Conference is appointed, but with no direct result, and the doctor settles the affair for a time by promising to resign in the course of the year, in order that the accusations may have time to appear. After waiting a while he addresses a letter to the managers demanding officially the cause of action. While so doing he answers certain unofficial objections to his course in the institution in a seemingly satisfactory manner. In this letter, in order to protect his position, he denies the truth of some statistics furnished by one of the Medical Board, and published as an official report by order of the managers in one of the daily papers. Nothing comes of this letter, and Dr. Jacobi as an alternative recalls his promise to resign. After a short interval of time the medical staff meet, and while asserting that they had "nothing to do with statistics and charges," declare the place vacant in consequence of insults to the ladies, managers, and

to the Medical Board, the said action being taken "in the interests of the institution."

There is of course always a good deal of personal feeling mixed up with such affairs, but with this we have nothing to do; our concern is with the purely professional aspect of the question. A number of managers are offended at one of the medical staff; they have no power to expel him, but threaten to alter the constitution to permit them so to do in case the staff itself, which has such power, does not. One thing is settled, the obnoxious doctor must give up his place in any event. The managers refuse to give any reasons for the request, either to the Medical Board or to the defendant. Next in the order of events this same Medical Board declare the place vacant "in the interests of the institution," because of insults to the staff and managers, at the same time declaring that they have "nothing to do with statistics or charges." The expressed and unalterable determination of the managers to get rid of Dr. Jacobi may have had nothing to do with the final action of the staff; but it is a strange coincidence to say the least. Any person outside of the profession who imagines that doctors can quarrel and act meanly towards each other, would be apt to link the actions of the managers and those of the staff in the light of cause and effect. But we in charity are content to go as far as the coincidence, and simply regret the circumstances which compelled the staff to expel a member who was foredoomed by the managers. It was a question of time. The managers declared they would alter the constitution to suit the case, why could not the staff be a little patient? By failing to do so, even admitting that their action as regards Dr. Jacobi was just, they have, in the eyes of the managers at least, established a precedent to expel each other when the said managers see fit to bid them.

Whatever view we may take of the respective merits of the case, it is well that the blow fell not on a beginner, who, losing his hospital appointment, loses everything.

THE CARBONATE OF SODA OF THE BIBLE.—Professor Chas. A. Joy (*Jour. of Applied Chemistry*) asserts that in the Bible carbonate of soda is called nitre, from the Greek word *nizo*, meaning to cauterize, to wash. The first use of soda is shown in Jeremiah: "For though thou wash thee with nitre, and take thee much soap," &c., &c. In Proverbs, we learn that Solomon knew what would be the action of acetic acid upon the carbonate of soda, for he says: "As he that taketh away a garment in cold weather, and as vinegar upon nitre, so is he that singeth songs to a heavy heart."

REFRACTION AND ACCOMMODATION.—Dr. G. Hay, of Boston, Mass. (*Boston Med. & Surg. Journal*), asserts that, out of 6,345 eye-patients treated at the Boston Infirmary, there were 394 cases of anomalies of refraction and accommodation; that is, about one in sixteen.

Reviews and Notices of Books.

THE TRANSACTIONS OF THE AMERICAN MEDICAL ASSOCIATION. Instituted 1847. Vol. XXI. Philadelphia.

THE present volume contains as usual the minutes of the last meeting, the address of the President, Dr. George Mendenhall, and the various committee and other reports. In the report on anatomy and surgery we find a paper on median lithotomy, by James L. Little, M.D.; a new operation for imperforate anus, by Thos. M. Healy, M.D.; a paper on neuralgia of the jaw-bones, by S. D. Gross, M.D.; one on partial paralysis from reflex irritation caused by congenital phymosis and adherent prepuce, by Lewis A. Sayre, M.D.; a case of congenital occlusion of the rima glottidis, by Louis Elsberg, M.D.; a new method of reducing dislocations at the shoulder-joint, by Samuel Logan, M.D.; a contribution to plastic surgery, by Gurdon Buck, M.D.; a case of formation of bone in the eye, by C. M. Carleton, M.D.; a new mode of amputation at the ankle-joint, by J. N. Quimby, M.D.; and a new method of lithotrity, by E. M. Moore, M.D. In the report on medical jurisprudence, hygiene, and physiology, the paper on the cellular structure of the red blood-corpuscle, by Dr. Jos. G. Richardson, is one of special interest. Under the same head there is a report on the doctrine of force, by J. H. Waters, M.D. Under climatology and epidemics, Dr. D. Francis Condie reports on the diseases of Pennsylvania for the years 1867-8-9, and Dr. R. C. Hamill on the topography, climatology, and epidemics of the State of Illinois. Under the practice of medicine and obstetrics, Dr. J. Byrne has a paper on intra-uterine injections; Dr. Nathan Allen one on the physiological laws of human increase; and Dr. Thomas Antisell a report on the cultivation of cinchona in the United States. A prize essay on the treatment of aneurism, by Dr. B. Howard, exhibits much patient investigation. Our space will not permit us to do more than refer to the various papers, but many of them will be found of unusual excellence and interest. The thanks of the Association are due to Dr. Wm. B. Atkinson, the Permanent Secretary, for the care and ability with which he has arranged the Transactions for the press.

THE PRACTITIONER: A Monthly Journal of Therapeutics. Edited by FRANCIS E. ANSTIE, M.D., F.R.C.P. Macmillan & Co., London, and 63 Bleecker Street, New York.

THE December number of this excellent and popular journal closes its fourth volume, and those who have been constant readers of the *Practitioner* will agree with us that its popularity is richly merited. Good as it was at the beginning, it has gone on in a steady career of improvement until it has attained the foremost rank in medical literature, laying before the profession every month a series of valuable original communications by men of eminence, critical and discriminating reviews, interesting clinical notes, and a comprehensive summary of intelligence gathered and condensed from the various British and foreign journals. The American reprint of the *Practitioner*, wholly unauthorized as it is, appears to have found little favor, having had nothing to recommend it but a trifling difference in cost—a very insignificant offset against a considerable delay and a much inferior style of typography.

We are pleased to learn from Messrs Macmillan & Co. that henceforth the annual subscription to the English edition will be four dollars instead of five—a reduction justified by the increased number of subscribers, and one which will doubtless be fully appreciated by the profession.

LUNACY: ITS PAST AND PRESENT. By ROBERT GARDINER HILL, F.S.A., Author of the Non-Restraint System of Treatment in Lunacy, Superintendent of the Lincoln Lunatic Asylum, etc. London: Longmans, Green, Reader, & Dyer. 1870.

THIS little volume is an able and emphatic plea for the non-restraint system in the treatment of lunatics. The author gives an appalling picture of the state of lunatic asylums under the system of restraint, with many well authenticated cases of barbarous treatment and its lamentable results. He claims that he has been instrumental in abolishing such brutalities, and in inaugurating a system having for its foundation kindness and humanity.

Reports of Societies.

NEW YORK ACADEMY OF MEDICINE.

STATED MEETING, NOVEMBER 17, 1870.

DR. H. D. BULKLEY, PRESIDENT, in the Chair.

SUBJECT :—*Continuation of the Discussion of Paper on "Pathology of Pulmonary Phthisis," by W. H. Draper, M.D.; and of Paper on Recent Views in Relation to "Pulmonary Tuberculosis," by Austin Flint, Sen., M.D., recently read before the Academy.*

DR. AUSTIN FLINT, Sen., in opening the discussion, remarked as follows:—I have already had my say respecting the subject which is before the Academy, and it would be unbecoming for me to occupy much of the time to be devoted to it this evening. In compliance with your request, however, I will offer a few remarks, by way of reopening the debate.

In the discussion thus far, considerable attention has been directed to the pathological character of the tuberculous products known respectively as granulations and tuberculous infiltration. Great importance seems to be attached by some pathologists to the doctrine that these two products are essentially different. The histological points of difference are deemed sufficient to constitute the anatomical characteristics of different diseases, and diverse names are applied to tuberculous infiltration—the name tubercle being reserved exclusively for the granulations.

I cannot but think that Dr. Leaming is correct in attributing to a prominent advocate of this doctrine an anti-Laennec *animus*. This *animus* seems to pervade the writings emanating from the Berlin school of pathology. Laennec had not the advantage of the microscope. Doubtless he could have availed himself of it had its value then been known; and it is no disparagement to his renown that he did not discover its value in addition to the discovery of auscultation. Laennec, however, in as far as his researches could go, came to a conclusion which his histological opponents now admit, namely, that the true tuberculous products undergo the same kind of metamorphosis, and become after a time identical.

It is plain that discussion will avail but little in settling the question whether these products are primarily so distinct as to constitute different affections. The question can be settled only by facts, histological and clinical. Histological observers are not all agreed as to the teachings of the microscope in relation to this question. An observer, perhaps as able and reliable as any one—Villemin—claims that the tuberculous infiltration is preceded by, and is the result of granulations which, as he thinks, are developed within the air-cells, as well as in the extra-vesiculo-areolar tissue.

It seems to me that in the discussion which has taken place, the fact of the almost constant coexistence of tuberculous infiltration and the granulations has not been sufficiently considered. While it is true that either product may be found without the other, after death, it is undoubtedly true that their association is the rule.

This rule shows an intimate pathological relationship between the two products. Granting that they are, histologically, different products—one a neoplasm, and the other an inflammatory exudation—is it not a fair inference from their constant association, that they are different phases or manifestations of one disease?

At all events, is it not at least premature to say that, when the two products exist together, the patient has two diseases, as when Niemeyer, in the passage from his work which has been repeatedly quoted in this discussion, states the danger in consumption to be the development of tuberculous disease?

There is a form of tuberculous disease which differs in a striking manner from the ordinary form of disease in cases of phthisis. I refer to the accumulation of granulations in great number in the lungs and other organs, without the coexistence of tuberculous infiltration. Considering the febrile phenomena and the shortness of the duration of this form of disease, it is appropriately distinguished by the name acute tuberculosis. Cases of this form of disease are rare. In cases of chronic phthisis, tuberculous infiltration is always present, and on examination after death, granulations are almost invariably found in greater or less number. Whether, in these cases, the granulations precede or follow the tuberculous infiltration, is a question concerning which there is a difference of opinion, some histologists considering the latter as primary, causative of the former, others holding an opposite opinion. Now, I submit that it is not unreasonable to protest against the attempt to supersede the name chronic phthisis or tuberculosis by other names, such as cheesy pneumonia, catarrhal pneumonia, lobular pneumonia, etc.

If we must have the name pneumonia, instead of tuberculous infiltration, it should, as it seems to me, be called tuberculous pneumonia.

At the last meeting of the Academy, Dr. Peters stated that there is nothing very new in the so-called new views in relation to the pathology of pulmonary tuberculosis. This I believe to be a correct statement. If we subject the views just noticed to a critical analysis, it will be found that the novelties are nominal rather than real. The non-identity of the granulations and tuberculous infiltration is not a new doctrine. This was the doctrine of Bayle in 1809. Bayle made the same distinction which is now made between these two products, considering each as representing a distinct species of phthisis; only he limited the name tubercle to the infiltrated or yellow product, calling the disease tuberculous phthisis, and the other species granular phthisis. Here is a normal, not a real, difference. That the infiltrated tuberculous product is the result of an inflammatory process, is a doctrine which has always been maintained by distinguished pathologists. The novelty here consists in this: It is insisted now that the disease represented by this product shall be called a pneumonia, and that it shall not be called a tuberculous disease. Here again is a nominal, not a real, difference.

Is there any practical advantage in these proposed changes as regards names? If by means of new names practical ideas are to be affected, irrespective of the results of clinical experience, then, so far from the changes being useful, they may prove injurious to medical practice.

It is certainly not a legitimate object of a nomencla-

ture to influence thereby opinions. The great object of a nomenclature is obviously convenience, and to this object even propriety and strict accuracy should sometimes be made subservient. I find it difficult to see any good to be effected by calling a tuberculous infiltration a pneumonia. On the other hand, the change begets confusion and embarrassment. The name pneumonia, as applied to any form of pneumonic inflammation, is undesirable, inasmuch as there is an obvious advantage in conforming as far as possible to the terminology which denotes an inflammatory disease.

If it must be that our German brethren compel us to succumb and accept the name pneumonia, let us hope that they will allow us to prefix the adjective tuberculous. It seems to me that we are entitled to this, in view of the relationship between the two products; and also, in view of the fact that the form of disease heretofore known as infiltrated tubercle differs so widely, in its anatomical changes and clinical history, from other affections designated pneumonias.

How unlike chronic phthisis to acute lobar and interstitial pneumonia, as well as to the affection which has been called lobular pneumonia!

The President of the Academy has suggested to me that a topic of importance in the discussion has received but little notice, namely, assuming that the granulations alone constitute tuberculous disease, can their existence be determined, with anything like positiveness, during life, when they are associated with what it is proposed to call tuberculous pneumonia? The importance of this topic is obvious, for of what use is it to consider these different morbid conditions as distinct diseases, associated as they generally are, if it be impossible to determine whether the tuberculous pneumonia exist alone, or whether tubercles are also present? Niemeyer, who thinks that the tubercles are developed consecutively to the pneumonia, endeavors to point out symptoms denoting their occurrence. But this supposed significance of certain symptoms is based wholly on conjecture. How can it be determined, so long as it is an unsettled question, whether the tubercles precede or follow the pneumonia?

To those who agree with Niemeyer in saying that the "greatest danger for the majority of consumptives is, that they are apt to become tuberculous," it is fair to propound the inquiry, is it practicable to determine, clinically, the supervention of tubercles? Will any one, with our present knowledge, undertake to say, at the bedside of a consumptive patient, at one time that tubercles do not exist, and, at another time, that they have been developed?

The assertion, by Niemeyer and others, that bronchial hemorrhage may be a cause of phthisis, has been a topic for remarks at the two last meetings of the Academy. I find myself here not in accord with Dr. Clark and Dr. Leaming respecting one point, namely, the occurrence of hemorrhage when there is no other evidence of a tuberculous affection, and when the hemorrhage is neither vicarious nor referable to disease of the heart.

I have met repeatedly with cases in which, after an attack of hæmoptysis, a careful exploration of the chest revealed no signs of tuberculous disease. If it be said that this result is only evidence of a want of skill in the practice of percussion and auscultation, I answer that in some of these cases years have elapsed and no symptoms of tuberculous disease have occurred. In one of these cases the lungs were examined, *post-mortem*, two years and five months after the date of my examination. I refer now to the case of the late Dr. Southack. Dr. Southack had an attack of hæmoptysis in July, 1867. The day after this attack I examined the chest, and recorded the result, three days afterward, as follows: "On examination of the chest, the only signs found were feebleness of the respiratory murmur in the left infra-clavicular region, and a very slight subcrepitant râle in the same situation. . . . He has had repeated attacks of acute articular rheumatism, but the heart has escaped." He was also examined by Dr. Janeway, who failed to find signs sufficient to denote tuberculous disease.

Dr. Southack died Dec. 14th, 1869, and at the autopsy there was no trace of any tuberculous affection. The weakness of the respiratory murmur at the left summit was accounted for by a depression of the lung caused by the thickening of the pleura.

It was suggested by Dr. Draper, at the last meeting, that a bronchial hemorrhage alone may give rise to signs which may lead to an erroneous diagnosis of tubercle. I can understand that this may be so. The presence of blood in the bronchial tubes, and a local hyperæmia may, perhaps, occasion, in some cases, slight dulness on percussion. Feebleness of the respiratory murmur may be thus produced; and a subcrepitant râle may be present, as it was in the case of Dr. Southack.

As regards bronchial hemorrhage being a cause of tuberculous disease, I agree with Dr. Clark and Dr. Leaming in the denial of the statement by Niemeyer and others. But I do not base my denial on the belief that when a tuberculous affection is found to follow hæmoptysis, the affection always existed at the time of the hemorrhage. On the other hand, I base my denial, 1st, On the occurrence, in a certain proportion of cases, of hemorrhage without being followed by tuberculous disease, or, if the latter follow, it is after too long a period to show any causative connection; 2d, On the fact that hæmoptysis, as a rule, is a salutary event in cases of phthisis. The statistics of Ware have established this fact, and, in my mind, it is corroborated by my own experience.

An important question, which has been considered by those who have participated in the discussion, is, whether bronchial catarrh or bronchitis leads to the common form of phthisis, namely, tuberculous infiltration, as affirmed by Niemeyer and others? This question is to be settled, not by reasoning, but by facts. It is to be settled by clinical facts. The autopsical appearances are not adequate to settle it. These appearances show bronchial inflammation, for bronchitis is a constant concomitant; but we do not learn by the scalpel whether the bronchitis was primary or secondary, and the answer to the question hinges on this point. Louis, in his researches on phthisis, published nearly fifty years ago, reached the conclusion that the development of phthisis is rarely preceded by bronchitis. It is a hazardous undertaking to theorize or reason against the conclusions based by this admirable observer upon an analysis of recorded cases. As regards the relation of bronchitis to phthisis, I will venture a stronger statement than belief, and say that I *know* he is right in his conclusions.

It is an exception to the rule, when a tuberculous affection follows immediately upon a bronchitis. I say this after having recently made abstracts of several hundred cases of phthisis which I have recorded during the last thirty years. So firmly convinced am I of the correctness of this statement, that, whenever I am satisfied, from a physical examination of the chest, of the existence of a bronchitis only, I am accustomed to assure patients that they are no more liable to consumption than if the bronchitis did not exist. The facts relating to this, and various other points of inquiry which an analysis of my cases may develop.

I propose, if life be spared, to submit to the profession.

With regard to this point, the considerations presented by Dr. Leaming are cogent, namely, that phthisis rarely occurs in connection with the bronchitis associated with disease of the heart; that patients with long-standing bronchitis which has led to emphysema, as is well known, seldom become tuberculous, and that among children who are prone to bronchitis consumption is rare.

To these considerations another may be added: Phthisis occurs after measles sufficiently often to show a connective relation; but, as a rule, phthisis is not developed until weeks or months after the bronchitis, which is an element of measles, has disappeared.

In conclusion, there are important questions connected with the pathology of tubercle which have as yet entered very little into the discussion. I refer to the bearing of pathological views upon the treatment. They who insist that in certain cases of phthisis the disease shall be called a pneumonia, and that the pneumonic inflammation is often the effect of a bronchial catarrh or a cold, which has been either neglected or badly treated, advocate a return to therapeutical measures which within late years have become almost obsolete. Is it wise to go back to blood-letting and confinement within doors, and even to the bed, in the treatment of phthisis?

This is a question the importance of which is so great that it should not be overlooked or ignored in this discussion. As I have already, in these opening remarks, occupied a longer time than I had intended, I will only say with reference to the question, that to answer it affirmatively is to disregard the lessons of experience, a renewal of which, I cannot but think, would involve shortening of life and an increased mortality among the hosts of phthisical patients.

Dr. E. R. Peaslee said that he had listened to these papers and discussions with a good deal of interest, and although he had not intended to take any part in the discussion, he felt that certain points had not been fairly put, and he would, therefore, say a few words in defence of Niemeyer and his views. The difference between Niemeyer and Laennec is one of terms rather than facts, or theory. Laennec described phthisis as a constitutional disease characterized by two forms of matter, both of which he called tubercle—one the miliary tubercle, a gray, semi-transparent substance, the other a yellow, opaque, cheesy substance, a later development, as he believed, of the former.

Niemeyer also finds two kinds of matter, the gray and the yellow, but calls only one of them, the former, tuberculous. He does not say that tubercular infiltration is pneumonia; but that this yellowish, opaque matter is not tubercular, but caseous matter. Now casein is an element of milk, and the term caseous matter means simply a matter like casein, or cheesy. It may or may not be formed from casein, and it makes no difference whether it contains casein or not. Laennec was consistent when he found two kinds of matter, and called them both tubercular. Niemeyer is not consistent in saying that one of them is not tubercular, and yet calling the disease in which it is found phthisis. We should not call a disease in which there are no tubercles phthisis; and yet it is easy to understand Niemeyer, who maintains that though these patients are not tubercular, they will probably become so. Infiltration in the lungs will produce caseous matter more readily than in any other part of the body. It is a descending metamorphosis, hastened by the exudation being exposed more directly to the atmosphere than in other tissues.

Niemeyer also states that though there are the two kinds of matter, the miliary and the yellow, the exudation of pneumonia may be converted into the latter, and if tubercles are now developed the danger is very much increased; and hence, if one gets pneumonic phthisis, he will also get tubercular phthisis. His error is in calling the former phthisis; and with this exception we can agree with him.

The speaker does not accept the assertion that pneumorrhagia or hæmoptysis produces tubercles, but it may produce caseous matter if there be inflammation that is neither relieved by the bleeding nor terminates in resolution, for we shall then have infiltration, and then caseous, and finally tubercular phthisis. Niemeyer overrates the importance of his discovery in believing that it will lead to a more prompt treatment of pneumonia with a view of preventing the final development of tubercles, for in the treatment of pneumonia we always aim at arresting the progress of the disease as soon as possible. He has called attention to the fact that yellow tubercle has no distinctive feature on which to base a diagnosis. Dr. P. thinks we should not call this tubercle.

On motion, the Academy adjourned.

Stated Meeting, Dec. 1, 1870.

Dr. H. D. Bulkley, President, in the Chair.

The reading of the Annual Reports followed. Dr. Pond, the Treasurer, suggested, from the prosperous state of the finances, the appropriation of five hundred dollars to the building fund. On motion of Dr. Post this was carried. The building fund, including this appropriation, now amounts to $11,952.12.

The Report of the Recording Secretary exhibited an increasing interest in the meetings of the Society by its members. Nineteen stated meetings were held during the past year, and ten papers read, followed by profitable discussions.

The Corresponding Secretary, in his Report, alluded to the death of an Honorary Fellow, Dr. William Gibson, of Philadelphia, who died last summer in Newport, R. I.; also the death of a Corresponding Fellow, Sir James Y. Simpson, M.D., of Edinburgh.

The total membership of the Academy amounts to 313; of which 283 are Resident Fellows; Non-resident Fellows, 4; Corresponding Fellows, 23; and Honorary Fellows, 3.

Two hundred and eighty-six books and pamphlets were donated to the Academy within the fiscal year, and have been added to the library. Nineteen new members were admitted during the year.

Nominations were then made for officers for the ensuing year, to be elected on the first Thursday in January. Dr. H. D. Bulkley was renominated for President, but declined, stating that he was in favor of rotation in office. Drs. Isaac E. Taylor, E. R. Peaslee, A. Underhill, A. C. Post, and W. Detmold were the candidates for the Presidency. Numerous candidates were named for Vice-President, Recording Secretary, Corresponding Secretary, Treasurer, etc.

The President stated that there would be no annual oration this year, on account of the illness of the appointed orator, Dr. R. Cresson Stiles.

Dr. W. F. Thoms was appointed the biographer of the late James Hyslop, M.D.

Dr. Stuyvesant F. Morris was elected by ballot a Resident Fellow.

Dr. S. Fleet Speir, of Brooklyn, exhibited a new *artery-constrictor*, for the occlusion of arteries without

a ligature, having a flattened tube, through which passes a steel rod, with a hook at the distal end and a screw at the proximal extremity. He has not only successfully experimented on the horse and dog, but has applied the instrument to the profunda and femoral arteries of a female in a case of amputation.

The following novel instruments were also shown by the speaker: A *bivalve ear-speculum*, self-retaining, and requiring no special illumination; a *lachrymal catheter*, shaped like a lachrymal sound.

In answer to Dr. Garrish, as to the time required for the application of the artery-constrictor, Dr. Speir replied that in his experiment on the carotid artery of the horse the instrument was retained at the distal extremity one minute and thirteen seconds, and at the cardiac extremity one minute. He also stated that he had not tried it in aneurism.

The "Continuation of Discussion of Papers of Drs. W. H. Draper and Austin Flint, Sen.," being then in order, Dr. Alfred L. Loomis read the following interesting paper on Pathology of Pulmonary Phthisis:—

Mr. President—The unsettled state of the pathology of pulmonary phthisis has allowed a wide range to this discussion.

When the subject was first announced, it seemed to me that a long series of investigations, experiments, and observations must be made before one could be prepared to enter on its discussion, and that it was impossible for one in a few weeks to prepare himself to speak more than intelligently upon it.

So far as I am able to understand and comprehend the statements that have been made, no new material has been added, and no new facts brought forward that tend to settle disputed points.

The discussion has assumed somewhat of a partisan character. On the one hand, Niemeyer's phthisis has been assailed; on the other, Laennec's tuberculosis. As I understand it, Niemeyer has no claim to originality in the views of phthisis found in his Practice of Medicine; they are simply a compilation of the views of the German pathologists on this subject. The question that comes before us then is, Shall we accept the German pathology of pulmonary phthisis, or retain the hitherto accepted doctrine of pulmonary tuberculosis? This question cannot be satisfactorily answered by the mere opinions of medical observers, unless such opinions are sustained by an accumulation of facts. Theories, it seems to me, do not advance medical science; certainly they can have but little weight in deciding a question like the one before us.

Personally I am inclined to accept the German pathology of phthisis, for it tallies best with my clinical and dead-house experience; yet I have few facts to sustain me in this opinion,—it is rather an impression, the result of general observation, always an uncertain guide.

As a text on which to base the few words I have to say, I will read a summary of cases observed at the Bellevue Hospital post-mortem room, from May, 1868, to December, 1869, as prepared by Dr. Edward Janeway. During this period 400 post-mortem examinations were made; phthisis in its different varieties was found in 63 cases. The summary of these cases is as follows:—

Gray tubercles only were found in 5 cases.
Lobular pneumonia only was found in 12 "
Fibrous induration only was found in 5 "
Lobular pneumonia and gray tubercles were found in 7 cases.
Lobular pneumonia, gray tubercles, and fibrous induration in 19 cases.
Lobular pneumonia and fibrous induration only in 12 cases.
Gray tubercles and fibrous induration were found in 2 cases.
Lobular pneumonia, with gray tubercles of pleura, was found in 1 case.

Cavities in the lungs were present in 38 of these cases.

General tuberculosis in 4 cases.
Tubercles of the pia mater in 4 cases.
" " liver " 3 "
" " peritoneum " 4 "
" " spleen " 3 "

In 29 of these 63 cases, no tubercles were found. They were confined to the lungs, with but five or six exceptions.

In 50 of the 63 cases lobular pneumonias were found.

Fibrous induration was marked in 34 of the cases.

Cheesy pneumonia and fibrous induration constituted the main pathological lesions in all except the cases of general tuberculosis.

The histories of the cases of general tuberculosis furnish some points of especial interest. I will read them in full.

The first was a male child who died of tubercular meningitis. The air-passages to the lungs and the thymus gland were normal. The bronchial glands were enlarged. They contained a few gray and white tubercles, but were for the most part in a state of softening, containing a puriform fluid. The lungs, with the exception of the lower lobe of right lung, appeared normal.

In that portion near the root were a few gray tubercles, and the surrounding lung-tissue was partly in a state of red hepatization, partly compressed by an enlarged bronchial gland in a softened condition.

The liver contained a number of tubercles.

The cortical portion of the kidney contained a number of tubercles. No other tubercles were found, nor other lesion, beyond slight enlargement of the solitary glands and Peyer's patches in the intestinal canal. If one assumes that tubercles originate as a result of some cheesy matter or other process, in this case enlargement and softening of the bronchial glands may have served as a focus for the disease.

Case 2d. Michael M'Affry, aged 40. *Autopsy*, December 28th, 1869. *Tuberculosis of pia mater.* There were tubercles of the pleura and lung.

The right upper lobe contained a few small cavities with purulent contents. The middle lobe was in a state of cheesy hepatization.

Nearly the whole of the left lower lobe was in a state of red hepatization. There were tubercles scattered throughout all the lobes of the lungs; some of these were gray and transparent, others opaque and white.

In the substance of the liver and on its capsule were a few tubercles. The surface of capsule of the spleen was studded with tubercles. One of the calyces of the left kidney was blocked up by cheesy matter, partly disintegrated, and by the thickening of its walls. In several of the other calyces gray tubercles were found, and in the mucous membrane of the pelvis three small yellow masses the size of one half a split pea. The right kidney contained none. There were also tubercles of the peritoneum, omentum, and mesentery. The choroid, bladder, seminal vessels, prostate, larynx, and trachea contained no tubercles.

In this case the tuberculosis might have originated from two foci, viz., from the right lung or else from the kidney. But the process at the apex of the right lung was apparently the older, and hence, with the assumption of a local origin, was the starting-point of the disease.

Case 3d, Occurred in male, 48 years old. *Autopsy*, February 9th, 1869.

There were tubercles of the pia mater, with but few evidences of meningitis.

The right pleural cavity was the seat of pneumothorax. In the upper lobe of the right lung there were two cavities containing pus and cheesy matter. In the lower lobe was a cavity which had opened into the pleura. In the left lung there was a small cavity at the apex and base surrounded by cheesy tissue. Throughout the rest of this lung small lobular cheesy pneumonias were found. At the apex these were aggregated and surrounded by red hepatization; at the base they were surrounded by congested lung-tissue. No tubercles were found in any other organ than the pia mater. In this case the cheesy masses in the lung may have been the focus whence the tubercles of the pia mater originated.

Case 4th, Was one of general tuberculosis in a male child, eight months old, born in the Hospital. Was plump and well till two months before his death. The child was nursed by the women in the ward promiscuously,—his mother having had puerperal mania, followed by synovitis of the wrist and knee-joint. The child gradually failed in flesh and strength, without diarrhœa. Two weeks preceding had convulsions. Gray tubercles were found throughout both lungs. Tubercles were found beneath the pericardium in the connective tissue. Gray tubercles on the surface of the intestines. Miliary tubercles in the cortex and pyramids of the kidneys. There were numerous ulcerations in the small and large intestine. Peyer's patches enlarged and ulcerated over great part of their surface. Tubercles found also in mesentery, omentum, pleura, and in the choroid of each eye. The mesenteric glands were enlarged and cheesy. *No disease elsewhere.*

In this case the question of the origin of the tuberculosis is one of some delicacy.

Apparently the starting-point of this disease was in the intestinal canal, and was a simple follicular ulceration at the outset, followed by hyperplasia of the mesenteric glands, and later by cheesy degeneration of their contents. If so, the focus of the disease was readily found. It was evident that the lesion in that locality was of the oldest date. It may be objected that the child had no diarrhœa, yet diarrhœa is not an essential of ulceration of the intestinal glands, as is often seen in typhoid fever. These four cases are certainly sufficient to show the frequency with which some lesion is found to precede tuberculosis, and that lesion one in which cheesy degeneration is found. The question of the origin of tuberculosis is far from being settled. Yet it seems to me that in some cases it undoubtedly has its origin in a previous cheesy degeneration, a probable embolismic process.

Experiments made by Voldenberg and others on animals would lead one to believe that other particles of matter besides shrivelled cells and fragments of cells might operate in the same way as foci. In all the cases of tuberculosis which have come under my observation recently, some point in the body has been found where processes were in operation which might have served as foci for the disease.

The following case will serve to show the difficulties which sometimes attend the search. A young male adult was the subject of a coroner's inquest at the Bellevue Hospital dead-house. He had died in the hospital without a history. He had general tuberculosis; the pia mater, lungs, liver, and spleen, were the seat of its development. I examined carefully for some point which might have served as place of origin, but unsuccessfully, till noticing a piece of red flannel on one knee I opened it, and discovered an old abscess with cheesy contents in the head of the tibia, and partial anchylosis of the knee-joint, with other evidences of a previous arthritis. But for the flannel I should probably have said, this was a case in which general tuberculosis occurred with no originating focus; and those who affirm that in certain cases no such point was discoverable, and hence would wish to entirely break the relationship between the two, do violence to facts on which we cannot as yet speak positively. Nor is it certain in cases reported as containing no point from which the tuberculosis could originate, that such was really the fact; because to do so would imply that every bone and gland and joint had been opened, a thing which is not done. Almost every case of true miliary tuberculosis in the adult that has occurred in Bellevue for the past two years was not recognized as such during life. The diagnosis in some instances was typhoid fever. It seems to me that what is generally understood as pulmonary phthisis is made up of many different lesions, viz., lobar, lobular, and vesicular pneumonias undergoing cheesy degeneration, with fibrous induration of the lung, chronic bronchitis, and lesions resulting from it in the parenchyma of the lung, with or without tuberculosis of the lung or other parts. All these different processes are sometimes met with in the same lung. The starting-point in the majority of these processes is either bronchitis or pneumonic inflammation. During the past two years my clinical studies of phthisis, as much as my post-mortem observations, have tended to convince me that chronic phthisis in the majority of instances is non-tubercular, and that the so-called hereditary or acquired tubercular diathesis is nothing more than a vice of constitution, either hereditary or acquired, which predisposes to degenerative inflammatory processes, and that when this class of subjects are the victims of bronchial or pneumonic inflammations, the tendency is to abundant cell formations and consequent cheesy metamorphosis.

I have a single word concerning physical signs. The recognised physical signs of the first stage of the phthisis are based on inflammatory process. Laennec even says that miliary tubercles furnish no appreciable signs of their presence, and Walsh states that induration rather than tubercle is the cause of the physical signs during the first stage of phthisis. So that by our physical signs we recognize the bronchial and pneumonic process in phthisis, and not the tubercular. There is one fact, or rather observation, which goes far to convince me of the bronchial or catarrhal origin of phthisis. In no instance since I have commenced particularly to investigate this point, have I failed at some point in a suspected locality to hear bronchial râles. A slight depression under a clavicle, loss of expansive movement, slight raise in the pitch of the percussion sound, a rude inspiratory murmur, and a prolonged expiration, to be a physical evidence of incipient phthisis must, I believe, be accompanied either by bronchial râles or evidences of bronchial changes.

NEW YORK MEDICAL JOURNAL ASSOCIATION.

STATED REUNION, NOVEMBER 4, 1870.

DR. ISAAC E. TAYLOR, PRESIDENT, in the Chair.

EFFECT OF OXYGEN ON THE PULSE.

DR. ANDREW H. SMITH read a paper on *The Effect of Inhalations of Oxygen upon the Pulse*, illustrated by sphygmographic tracings. It appears in our present issue. In response to questions at the conclusion of

the paper, the Doctor stated that those cases in which the frequency of the pulse was not reduced by the inhalation seemed to derive no benefit from it; but the cases were comparatively few in which such a reduction was not effected after the treatment had been kept up for a short time; the frequency was reduced in about seventy per cent. of the cases. Some cases of phthisis were very materially improved by the oxygen treatment; in others no improvement was perceptible. In croup, his experience with this treatment had not been flattering, probably because most of the cases were at the last gasp when he had been called in.

Dr. Jerome C. Smith.—Early in Dr. Smith's investigations I was impressed with the value of oxygen as a remedy in certain affections, and I have followed his experiments with great interest, taking many of my cases to him for observation and treatment. My first impressions of the therapeutic importance of oxygen have been fully confirmed, and I may be allowed to refer to a few examples of its efficacy.

One case in particular, although it has been published in the Medical Record [Vol. iv., p. 171], I will speak of very briefly. A child, two and a half years old, having measles, was seized with congestion of the lungs, and was in imminent danger. Dr. Little was called in and told the parents that the child was dying; but, contrary to all expectation, three or four hours later it was still just alive. I then suggested the administration of oxygen; it was given with marked effect, and the child lived.

Last winter a patient in whom I took the deepest interest was suffering from pelvic abscess and a state of extreme nervous prostration, after the operation of ovariotomy. By the advice of several physicians I administered chloral hydrate. She had taken something over two hundred grains in all, when decided symptoms of poisoning, similar to those of belladonna-poisoning, came on. The face was livid—of a perfect mahogany hue—the lividity already giving place to spots of whitening about the nose. Her condition was most alarming; I sent for Dr. Thomas, but he could not be found; then I called in Dr. Purdy and Dr. Andrew Smith, who at my suggestion gave oxygen. The immediate improvement was great; but when the gas was let up for a short time, the grave symptoms returned. The pulse, temperature, and other signs were carefully noted, and it was a matter of demonstration to all of us that the oxygen was the only thing we could rely upon to keep the patient alive. It served to bridge over the chasm of imminent danger.

In a case which more recently came under my notice, the physician had inadvertently administered, to a gentleman suffering from a violent attack of colic, too large a dose of Squibb's cholera mixture, which contains opium and chloroform. The patient had become deeply narcotized, and I was sent for in haste, across the river, to see him. I found his respirations less than five in the minute; to make them count five you must begin with an inspiration and end with one just drawn. He was not totally unconscious; we could arouse him somewhat, telling him "Don't forget your breathing," when he would make an effort and respire for two or three times more rapidly, then lapse into the slow breathing again. This condition lasted for twelve hours, almost without improvement, except while he was under the immediate influence of oxygen, which was given, about four gallons at a time, every half hour or so. Then he could be made to understand that he was in peril, and would exert himself to inhale the gas, and his condition would improve for a while. We did what we could with strong coffee, stimulating enemata, walking him about, and the other ordinary remedies for opium-poisoning; but the oxygen gave the greatest relief, and became our main reliance.

I might go on and relate many cases from my experience with this agent, proving its inestimable value, but will mention only one more. A young woman, supposing herself within two or three days of confinement, applied to me with complete anasarca, urine highly albuminous, almost solidified by heat, and uræmic symptoms so urgent that I felt the necessity of resorting to something beyond the ordinary measures. So, besides the cupping, hot-air bath, etc., we put the patient upon oxygen-inhalation, thinking the gas might act not only to sustain the patient's powers, but also as an eliminant to remove the poisonous principles in the form of urea from the blood. Confinement did not occur as soon as she had expected, and the gravest apprehension was felt for her safety. The danger was safely passed, however; and although it is impossible to say just how much the oxygen-treatment had to do with this, yet it seemed to us, who were watching the case, that something of the success was to be attributed to the eliminating power just mentioned.

Dr. Neftel.—I wish to express my appreciation of the value of Dr. Smith's researches. A glance at a few of the more recently established facts in physiology may explain some of the effects of oxygen-inhalation in certain cases, and its failure to produce any effect in others. Important and all-pervading as are the processes of oxidation in the animal economy—giving origin to heat, electricity, muscular power; liberating and rendering active in the animal system those forces which in the plant had been rendered latent by the opposite process of reduction—yet all these processes are under the control of the nervous centres. Respiration itself, with its complex mechanism of co-ordinated muscular movements, is, as we all know, under the control of the respiratory centre in the medulla oblongata, which, excited, increases the respiratory movements; destroyed or paralyzed, abolishes them. The normal stimulus of this centre is the carbonic acid in the blood; the more of this, the more violent are the respiratory efforts; the less of it and the more oxygen, the less frequent and intense they become, until, when the blood is saturated with oxygen, there is complete cessation of respiratory action, or the condition known as "apnœa" (to be distinguished from the opposite condition of dyspnœa). It is impossible, therefore, to introduce into the system more oxygen than it needs, because this condition of apnœa comes in to put a stop to respiration.

Moreover, the blood itself can absorb only a certain amount of oxygen, determined by physiological and physical laws. We speak of the blood, for, though all the tissues absorb oxygen, yet the chief agents in this are the red corpuscles, which hold it in loose combination with their hæmaglobin. These can receive only a fixed amount, which cannot be exceeded, though we place the animal in an atmosphere of pure oxygen. Again, in certain diseased conditions, the usual amount of oxygen cannot be absorbed—in leuchæmia, for example, where the red corpuscles are deficient in number, or in diabetes, where they are deficient in absorbent power. We know that carbonic oxide has such a strong affinity for the hæmaglobin that it will expel all the oxygen from the corpuscles, and then, no matter how much oxygen we supply, they cannot again absorb it. A patient poisoned with carbonic oxide may die, then, of asphyxia in an atmosphere of oxygen, just as a man may die of starvation with plenty of food before him and a stricture of the œsophagus. When asphyxia is due, therefore, not to want of air in the lungs, but to a diseased condition of the nervous

system or of the blood, we may expect little benefit from the administration of oxygen.

There are other conditions, however, where its use is of the greatest importance, and some which have not been mentioned to-night. It has been satisfactorily proved, in a series of remarkable experiments, that when the system is saturated with oxygen, to the extent of producing apnœa, the reflex irritability of the spinal cord is totally abolished. Animals poisoned with strychnia, and then kept in the condition of apnœa by artificial respiration, have no convulsions. It is an established fact that artificial respiration will prevent or cure convulsions dependent upon reflex irritability of the cord. For this pure oxygen is not required; atmospheric air will serve.

Dr. Peaslee.—This matter of inhaling oxygen as a remedial agent is by no means a new thing. It was practised some sixty or seventy years ago by Dr. Beddoes, and given up because it was impossible to obtain oxygen in sufficient quantity and purity. Now we have not this difficulty to contend with. You know there is a man in Broadway, between Twenty-second and Twenty-third streets, who furnishes the pure gas in cylinders under strong pressure, in a form as convenient for administration as could be desired. We are now, therefore, placed in a position to ascertain precisely what are the effects of oxygen in its therapeutic application.

I rose to say that there are other conditions, besides those we have heard mentioned, where oxygen will enable us to "bridge over the chasm" for the time being. Take a case which came under my notice quite lately. An aged lady, who had been suffering from a disease of the heart for some two years, had a sudden attack of dyspnœa, and sent for me in the night. I sent Dr. Janvrin in my place, and he found her in the utmost distress, with œdema of both lungs. It occurred to him to use this remedy, and he at once obtained a cylinder. About five gallons were drawn off at once, and taken in the course of five or ten minutes, as the case might be, very soon the dyspnœa was relieved, the lividity of the lips disappeared, and the patient was comparatively comfortable. But there was no arrest of the pulmonary œdema. The fluid kept on rising higher and higher, the patient sitting erect. This was at ten o'clock in the morning. The oxygen would relieve her most urgent symptoms for the time, and then she would relapse. The whole day was occupied in giving the gas and keeping her alive, as in my opinion it unquestionably did, until the medicine which had been given for the pulmonary œdema should have time to operate, which it did about dusk, with marked benefit. I do not believe she could have lived two hours without the oxygen, its effect was so apparent in changing the color, diminishing the frequency of the pulse, and increasing its force. Still the cardiac disease was not removed, and the next day the patient had a relapse; oxygen was again resorted to; and so on from day to day for about ten days, at the end of which she seemed to be out of danger for the time. Suddenly, however, symptoms of double pneumonia set in, and she died very speedily. In that case some two thousand gallons of the gas were used in ten days.

I have used it recently, also, in a case of extreme nervous debility, with sleeplessness and rapid irritable pulse, for which chloral hydrate had been given with some benefit. I tried oxygen, and the pulse fell from ninety or one hundred to seventy-two or three; it became stronger as well as less frequent; the appetite improved; and the patient is evidently decidedly benefited.

I think this remedy, properly given and in sufficient quantity—for now we need not stint the patient—will be found of the greatest value in just that way—to "bridge over a chasm." And even in cases where the patient must die in a few days, it can at least prolong life. In the case I first mentioned, the lady knew her condition perfectly, and was very anxious to live until her son and daughter could return from the west, which would take perhaps forty-eight hours. I do not think it was this hope alone, but am convinced it was chiefly the oxygen which enabled her to realize her desire. I am very glad that Dr. Smith has brought this subject before us, and I think we shall all learn to realize its importance within the year to come in the saving of many lives.

Dr. Jerome C. Smith.—It occurred to me, a few days ago, that the gas might be of service in a case of lead-paralysis. Having had painters in my house for about two months last summer, I became through them acquainted with a number of cases of lead-poisoning. Last week, one came to me from Hyde Park, with severe lead symptoms—paralysis of a large number of the muscles of the body, and most obstinate constipation. He had been treated, but without relief; had taken immense quantities of castor-oil, till it would no longer be retained by the stomach; a considerable amount of croton-oil; and, indeed, had gone through the catalogue of cathartics. I found him complaining of very great weight of the limbs, especially the arms, of pain in the abdomen, and of paralysis affecting almost the whole body. He had taken iodide of potassium. I gave it again with extract of senna, and determined to try also the effect of oxygen. He was sent to the office in Broadway, and ordered to inhale the gas for twenty or thirty minutes twice a day. His symptoms were not much relieved for twenty-four hours; and, as he had been very sleepless, I gave him the first night a moderate dose of chloral hydrate, which secured a comfortable night's rest. The second night I repeated the dose with the same result. On the third day he got two drops of croton oil. By the ordinary treatment, coupled with the oxygen, he is now completely relieved. Though we cannot say just how much good the oxygen may have done, yet it is my belief that it assisted very greatly; that, to say the least, it put the patient in a condition favorable to the action of the other medicines. I think that we shall find similar benefit from it in many cases where at first we might hardly expect it to be of much service; that its tonic influence upon the system will render it a powerful adjuvant to the treatment specially directed against the diseased condition.

Dr. Janvrin.—I would say a word on the tonic effect of the gas, to which the last speaker has referred. During the past three or four months I have been experimenting with it somewhat, both in conjunction with Dr. Smith and by myself. I have used it in a great many cases of phthisis, and with benefit in almost every case. The frequency of the pulse would be diminished, and its force increased. I have also employed it in cases of uterine disease, especially where there was marked anæmia. I have one under treatment now—a lady who had come from the south to be under Dr. Peaslee's care; he was away, and she fell into my hands. She was very much emaciated; during the last two years had had seven miscarriages; was suffering from menorrhagia and uterine neuralgia. I gave iron-by-hydrogen, bitter tonics, and local stimulants, but was unable to excite any appetite whatever. She could barely take two or three teaspoonfuls of beef-tea at a time, and even that was almost always rejected by the stomach. It oc-

curred to me that I might stimulate the appetite by oxygen. I gave five gallons twice a day; on the second day she began to show some little appetite, and it has regularly increased.

To Dr. Peaslee's account of the case of œdema of the lungs, I might add that the patient was in a condition of stupor during almost the whole of the first day, the medicine not operating until late at night. Whenever the oxygen was given, it would arouse her from the stupor within five minutes from the time of its inhalation. It was kept up for the ten days. After the pneumonia set in, it was given for three days, and enabled her to converse with her family up to ten minutes before death.

Dr. Gurdon Buck now presented some interesting cases of *Cheiloplasty*, with remarks upon his mode of operating, the report of which is crowded out of our present number.

The meeting adjourned.

New Instruments.

A SURFACE-THERMOMETER.

By E. SEGUIN, M.D.,

NEW YORK.

When thermometry was first introduced in our hospital and private practice, I published in the New York Medical Record, in its No. of January 1st, 1867, an exhaustive article on the subject, accompanied with large diagrams, in which will be found the following prediction: "The *Fever-thermometer* answers very well to measure the temperature of the body taken at completely sheltered places; but we must acknowledge that it is not fitted to measure the abnormal temperature of local inflammation upon open surfaces. It would be often desirable that an excess of local heat might be compared at its different stages with the normal heat of surrounding healthy parts; and we do not doubt that some mechanical genius will yet devise a kind of thermometer whose broad yielding bulb shall adapt itself to any surface of the body, at the same time that its superstructure shall be isolated from atmospheric influence. *What mankind needs man finds.*"

This appeal, exactly four years old now, seems to have been answered by the writer himself, who has just presented the wished-for instrument to the New York Medical Journal Association, as the result of his study and of the ingenuity of Mr. Stohlman, the instrument manufacturer, who tenders so willingly his mechanical skill to the service of medical and surgical inventors.

The question at issue may be thus summed up.

A Fever-Thermometer for General Thermometry.

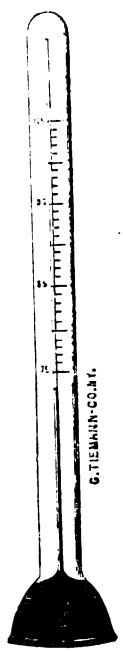
A Surface-Thermometer for Localized Thermometry.

This double proposition needs only a short commentary.

The *Fever-thermometer*, though of recent origin, has already rendered many services. But its shape, well adapted to cavities, does not suit surfaces. How could it be rendered serviceable upon surfaces by some simple and ready modification, remained a desideratum. Hence the necessity arose of contriving a *Surface-thermometer*, whose sensitiveness to caloric concentrated at the bottom of the mercury-reservoir could indicate the exact temperature of any given surface.

The principle of the *Fever-thermometer* is that its standard of health is invariably, according to Wunderlich, 98 6-10 Fahr., from which point it starts up to mark fever, and down to mark devitalization.

On the contrary, the *Surface-thermometer*, acting on surfaces whose temperature depends on a large range of atmospheric and physiologic or pathologic combinations, will mark only the difference of temperature between a well and a sick side or part without a prefixed standard. Hence the necessity, when using the later instrument, to apply it alternately to the part known or suspected to be diseased and to an opposite or neighboring part whose health is unquestionable; so that the difference of temperature found expresses in figures the intensity of the disease: *that* is the standard of the *Surface-thermometer*.



Its structure is sufficiently described by the accompanying drawing, which is full-sized, in all particulars but one that experience will soon settle—that is the rigidity or flexibility of the mercury-reservoir.

Its *modus operandi* consists in warming it in the hand up to 75° Fahr., and placing it at right angles alternately for a few minutes on the two antithetical points selected for the observation. It is useless to remark that, if the sufferer from a local affection is also the subject of general inflammation, he falls under the index of the *fever-thermometer*.

To mention a few cases where the *surface-thermometer* can be used, besides its application in experiments of physiology and organic chemistry.

A.—To measure the power of calorification of localized electricity, of the Mayor's hammer, calorific mixtures, &c.

B.—In the obscure beginnings of hemiplegia and paraplegia it shows a larger evolution of heat on the threatened parts than on the sound ones, and in confirmed paralysis the reverse obtains, the temperature of the affected parts being shown lower than that of those remaining sound.

C.—In articular rheumatism, sciatica, facial neuralgias, &c., the *surface-thermometer* will show rises and falls of local temperature, which may throw a new light on the origins of neuroses.

D.—In local diseases of children, idiots, insanes, and of other persons who cannot indicate the seat of their affection, the *surface-thermometer* may point it out.

E.—With a slight modification in the shape of the bulb, as already suggested by Dr. H. Shiff, or in its present form, not objected to by Dr. Knapp, it will mark the changeable differences of temperature between a sick and a well eye, and may warn of the approach of sympathetic ophthalmia and other accidents. Other specialists will likely find its application to their favorite pursuits.

F.—In the formative stage of deep-seated abscesses, their centre will often betray itself by a higher temperature. In chronic and cold abcesses it will not be so, and may be the reverse.

G.—In deep-seated surgical lesions, the new instrument will often reveal the very centre of disorganization, or the extent of effusions, of which even a skilful hand may remain in doubt. When, according to the energetic expression of John Hilton: * "A surgeon

* "Influence of Mechanical and Physiological Rest in the Treatment of Accidental and Surgical Diseases."

finds himself between two alternatives, "plunge in the knife," or "wait till the abscess comes nearer to the surface; but the patient may die in the mean while," then the *surface-thermometer* will rise higher at the centre of a tumor, even if there is abscess, or fluctuating like the sphygmometer of Jules Herrisson, if there is aneurism: that may prove to be one advantage of the flexible bulb.

H.—The proposed instrument will be in frequent requisition to ascertain the rise or fall of temperature in a region lately submitted to a grave operation, or hidden from view by an immovable apparatus.

I.—The *surface-thermometer* may be equally sensitive to the local evolution of pathological heat in pneumonia, pleurisy, peritonitis, typhoid fever, &c., as in the slower affections, chronic meningitis, pulmonary phthisis, tabes mesenterica, chronic metritis and ovaritis, &c., &c.

Let us observe, moreover, that the mode of investigation instituted by the *surface-thermometer* is kind, and never presents the very grave dangers feared from deep palpations, percussion, succussion, and other often unmercifully repeated manipulations.

In any case the *surface-thermometer* will have also upon the hand, even the hand gifted with the *tactus eruditus*, the advantage of being early brought to a mean, known and impartial temperature; whereas the hand comes to the work of diagnosis with a variable warmth of its own, variously estimated, and variously interfering with the perception of the temperature of the parts under observation.

It is not necessary to dwell any longer upon the advantages of this new and desirable instrument of *positive diagnosis*. It is offered to the profession to be tried; if found imperfect, somebody will perfect it. But in its present shape, or with some happy modification, sooner or later it will be the mate and complement of the *fever-thermometer* in the pocket-case of every industrious practitioner.

ARMY AND NAVY NEWS.

Official List of Changes of Stations and Duties of Officers of the Medical Department United States Army, from December 4, 1870, *to December* 17, 1870, *inclusive.*

COOPER, G. E., Surgeon.—By Gen'l Orders No. 28, c.s. Headquarters Department of the Columbia, announced as Medical Director of that Department.

MAGRUDER, D. L., Surgeon.—By S. O. No. 224, c.s. Headquarters Department of the Missouri, granted leave of absence for thirty days, with permission to apply for an extension of sixty days.

GHISELIN, J. T., Surgeon.—By Gen'l Orders No. 28, c.s. Headquarters Department of the Columbia, relieved from duty as Acting Medical Director of that Department.

CLEMENTS, B. A., Surgeon.—Returned to the Post of Jackson Barracks, New Orleans, Louisiana, December, 6, 1870.

TILTON, H. R., Assistant Surgeon.—By S. O. 224, c.s. Headquarters Department of the East, granted leave of absence for thirty days, with permission to apply for an extension of sixty days.

MCMILLIN, THOS., Assistant Surgeon.—By S. O. 181, c.s. Headquarters Military Division of the Pacific, granted leave of absence for sixty days, with permission to apply for an extension of four months.

KOERPER, E. A., Assistant Surgeon.—By S. O. 151, c.s. Headquarters Department of Texas, the leave of absence granted him in S. O. 129, c.s., Headquarters Fort Clark, Texas, is extended fifteen days.

O'REILLY, R. M., Assistant Surgeon.—S. O. No. 177 c.s. Headquarters Department of California, confirms telegram authorizing him to delay fourteen days in reporting at Headquarters Department of California.

O'REILLY, R. M., Assistant Surgeon.—By S. O. 171, c.s. Headquarters Military Division of the Pacific, the permission to delay fourteen days reporting at Headquarters Department of California, is extended forty days.

DICKSON, J. M., Assistant Surgeon.—By S. O. dated Headquarters Department of the Platte, November 15, 1870, granted leave of absence.

MINOR, W. C., Assistant Surgeon.—By Gen'l Orders No. 119, War Department, Adjutant General's Office, November 25, 1870, retired from active service.

Medical Items and News.

CONTAGIOUS DISEASES.—Dr. Moreau Morris, City Sanitary Inspector, submits the following comparative statement of Contagious Diseases reported to the Bureau for the fortnights ending Dec. 10th and 17th, 1870:—

Week Ending	FEVER.			Small-pox.	Scarlatina.	Measles.	Diphtheria.
	Typhus.	Typhoid	Relapsing.				
Dec. 3.	4	45	7	2	61	43	7
Dec. 10.	1	21	7	2	79	50	8

Week Ending	FEVER.			Small-pox.	Scarlatina.	Measles.	Diphtheria.
	Typhus	Typhoid	Relapsing.				
Dec. 10.	1	21	7	2	79	50	8
Dec. 17.	2	16	4	2	55	79	11

DR. CLYMER'S LECTURES ON THE PALSIES, ETC.—*The London Medical Times and Gazette*, October 15, 1870, says:—"Recent numbers of the *New York Medical Record* contain some excellent lectures on nervous diseases by Dr. MEREDITH CLYMER, who has devoted much attention to the subject. Those on Charcot's and shaking palsy are peculiarly valuable." These lectures have been translated into French by Dr. P. VERGELEY, one of the Editors of *l'Union Médicale*, published at Bordeaux, and are now appearing in that journal.

BARON VON LIEBIG.—This eminent *savant* is now in Engadine, Switzerland, for the recuperation of his health.

New Publications.

BOOKS RECEIVED.

MATERIA MEDICA; for the Use of Students. By JOHN B. BIDDLE, M D., Prof. Mat. Med., etc., Jefferson Medical College. 4th ed. Philadelphia: Lindsay & Blakiston. 1871.

THE GYNÆCOLOGICAL RECORD. A Book of Blank Forms, intended as an Aid to the Busy Practitioner in recording Gynæcological Cases; with an Appendix of Blank Leaves and Tables for the Ready Analysis of the Contents of the Book. Prepared by JOSEPH G. PINKHAM, A.M., M.D., Corresponding Member of the Gynæcological Society of Boston, Fellow of the Mass. Medical Society. Approved by the Gynæcological Society. Boston: James Campbell, 18 Tremont Street. 1870.

Original Lectures.

TUBERCULOSIS OF CHILDREN.

BEING REMARKS MADE BEFORE THE NEW YORK MEDICAL JOURNAL ASSOCIATION.

By J. LEWIS SMITH, M.D.,

NEW YORK.

SYMPTOMATOLOGY.

Symptoms.—The symptoms in tuberculosis of children arise, in part, from the dathesis, and in part from the tubercles. Before the period of tubercles, there are signs of failing health, such as loss of appetite, flabbiness of the soft parts, or emaciation, lassitude, and loss of strength. These symptoms continue after the formation of tubercles, and increase.

The features are ordinarily pallid, but during the paroxysms of fever, to which tubercular patients are subject, they may be flushed. Lividity of the features, due to imperfect decarbonization of the blood, occurs, if there are enlarged bronchial glands which compress the vessels within the thorax, or if there is extensive pulmonary tuberculization, or pulmonary tuberculization, whether extensive or not, which is complicated by capillary bronchitis or pneumonia.

The skin is nearly natural, or it loses its flexibility and softness, and becomes dry and rough. In some patients there is, at times, general or partial furfuraceous desquamation of the skin, due to exaggerated development of the epidermis. Children, like adults, notwithstanding the general dryness of the surface, are liable to perspirations at night and in sleep. This symptom is less frequent at the commencement than at an advanced period, and in acute than in chronic cases, in the very young, namely, those under three or four months, than in older children. It is more abundant about the head and limbs than elsewhere, and is sometimes confined to these parts.

Anasarca is not infrequent. It sometimes arises from obstructed circulation, in consequence of compression of the thoracic vessels by enlarged lymphatic glands; in other cases it is due to diminished plasticity of the blood, a result of the tubercular cachexia. The latter is the more common cause. It is not an important symptom, on account of the small amount of serous transudation, and the character of the parts in which it occurs.

Emaciation, already alluded to, is early, constant, and progressive. Under the age of six or eight months it is less marked than in older children, many preserving considerable rotundity of features and form even in advanced tuberculosis. The failure of the strength corresponds in amount and progress with the emaciation. Slight at first, and exhibited only by a degree of lassitude, it gradually increases, till for weeks before death the little patient is fatigued by the ordinary muscular movements, and is disposed to keep quiet.

The nervous system is not ordinarily affected except in cases of intra-cranial tubercles. In acute tuberculosis, or tuberculosis complicated by severe inflammation, there may be agitation and delirium, especially at night.

In most patients the mucous membrane of the buccal cavity presents its normal appearance, with the exception of a moist fur upon the tongue, and a paler hue than normal of its surface generally. In acute tuberculosis, and in cases complicated by inflammation, the tongue is sometimes dry and brown. The appetite may be normal till the close of life, or it is poor or changeable. Occasionally it is increased, although the disease is progressing. The bowels are regular or relaxed. Diarrhœa may be a prominent symptom, even when there are no intestinal tubercles or ulceration. Meteorism and fulness of the abdomen are common.

Fever, constant, but usually with evening exacerbations, is rarely absent. It continues for weeks or months. During the exacerbation the pulse rises to 120, 140, or even to 180 beats per minute, and there is a corresponding exaltation of the temperature, which in the latter part of the day, without inflammatory complication, ranges from 100° to 102° or 103°. The fever is a symptom of diagnostic value as regards the nature of the disease, though it does not indicate the seat of the tubercles.

In addition to the symptoms now described there are *special* symptoms, due to tuberculization of the different organs. In young children, on account of the fact already referred to, namely, the tendency to a generalization of tubercles, there is apt to be a blending of the symptoms which arise from different organs, but with care it is not difficult in most instances to isolate and refer them to their proper source. The following are the symptoms which arise from tuberculization of the more important organs. 1st, Encephalon. The symptoms produced by tubercles of the encephalon vary according to their seat and size, and the structural changes in surrounding parts to which they give rise. Meningeal tubercles, which are located for the most part in the meshes of the pia mater, and by preference along the course of the small arteries, are ordinarily small, not more than a line in diameter, and they may remain latent for a considerable time. In the majority of cases, however, they sooner or later cause meningitis, the symptoms of which are well known and need not be described. But tubercles in this situation do sometimes give rise to symptoms when there is no meningeal inflammation. They occasion congestion of the surrounding vessels, and serous transudation, and if developed on the under surface of the pia mater they may produce symptoms by encroaching upon and irritating the brain; for they are sometimes so much imbedded in the convolutions that careful examination is required in order to determine that they are meningeal, and not cerebral. Among these symptoms may be mentioned headache, frontal or occipital, sometimes intermittent, nausea, melancholy, and in certain cases the symptoms produced by the serous transudation.

The symptoms of *cerebral* are in part similar to those of meningeal tubercles, but in most cases others of a neuropathic character are present, which serve for differential diagnosis. The differences as regards the symptoms of different patients affected with cerebral tubercles are attributable in part to the fact that their size and rapidity of growth vary, but more to the difference in their seat; for any part of the brain may be the seat of tubercles, though certain portions, as the cerebellum, are more frequently affected than others.

The child with cerebral tubercles is quiet, but irritable and easily excited. Delirium is not common, but many before the close of life exhibit a degree of mental dulness. The headache, common in cases of cerebral as well as meningeal tubercles, may be nearly general, or it is frontal, parietal, or occipital, according to the seat of the tubercles. It is often lancinating, often intermittent.

Clonic convulsions occur towards the close of life. Exceptionally they are among the earliest symptoms. Observations have failed to establish any relation between the seat of the tubercles and the localization of the convulsions. The convulsions may be unilateral, while

the tubercles are in both hemispheres; or general, while the tubercles are on one side only.

The severity and duration of the convulsive attacks, and the frequency of their occurrence in tuberculosis of the brain, vary greatly in different patients. They have been attributed to softening of the cerebral substance, which sometimes occurs immediately around the tubercles, to local congestions excited by them, and also to serous effusion in the ventricles. The convulsions sooner or later end in paralysis or coma.

Contraction, or tonic convulsion of certain muscles, is sometimes observed. Its most frequent seat is the muscles of the back, and of one or both of the lower extremities. It is a late symptom. It occurs in those cases in which there is softening around the tubercles, and usually in the muscles of the opposite side.

Paralysis is also a late, but not an unfrequent symptom. It is preceded by headache, and sometimes, as already stated, by convulsions. Occurring as a symptom of tuberculosis of the brain, it is due either to pressure on a cranial nerve, or to compression, and perhaps softening of the cerebral substance. The paralysis may be paraplegic, commencing as feebleness of the lower extremities, and increasing until it becomes complete, or a more or less complete hemiplegia. In paraplegia due to tubercles of the brain, the cerebellum is, as a rule, their seat, while paralysis of one side, or of certain muscles of one side, indicates tubercles of the opposite cerebral hemisphere; but there are exceptions. Paralysis of the third cranial nerve gives rise to ptosis, of the sixth to paralysis of the external motor nerves of the eye, and therefore to internal strabismus.

Feebleness or loss of vision, inequality, oscillation, and finally dilatation of the pupils, are not unfrequent symptoms of tuberculosis of the brain, and they possess great diagnostic value. Atrophy of the optic nerve, causing amaurosis, sometimes results from tubercles as well as other tumors of the brain. Atrophy of this nerve occurs not only when the tubercles are so located as to press on the optic tract, in which case the explanation is apparent, but also in certain patients, when the tubercles are in other parts of the brain. In these last cases it is thought by Brown-Séquard and others that the imperfect nutrition of the nerve is due to contraction of its nutrient vessels, produced by the tubercles through reflex action.

In tuberculosis of the brain symptoms pertaining to the respiratory, circulatory, and digestive systems are either absent or are quite subordinate to those of a neuropathic character. Slowness of the pulse, with or without intermittence, has sometimes been observed, and it is therefore a symptom of some diagnostic value. Towards the close of life both pulse and respiration are apt to be accelerated. Vomiting, constipation, and retraction of the abdomen, which are so common in meningitis, are only occasional symptoms.

Bronchial Glands.—During the progress of tuberculosis, hyperplasia, cheesy degeneration, and softening may occur of various lymphatic glands throughout the body, but the bronchial and mesenteric are not only those which are most frequently affected, but they are the only glands, unless in exceptional instances, which materially increase the danger or give rise to special symptoms. These symptoms either have a mechanical cause, namely, the pressure exerted by the enlarged glands on contiguous parts, or they are due to softening of the glands and consecutive inflammation and ulceration.

The following are the principal symptoms due to compression. Some of them are not infrequent; others are rare. Compression of the pulmonary veins retards the flow of blood from the lungs to the left auricle, giving rise to congestion, and, in extreme cases, œdema of the lungs, with sanguineous extravasations into the lung substance, congestion of the right cavities of the heart, hepatic veins, and of the systemic capillaries generally. Compression of the pneumogastric nerve, or of the recurrent laryngeal, which is the motor nerve of the laryngeal muscles, produces a cough which is apt to be spasmodic, and modifies the voice. The cough resembles that of pertussis, and has been mistaken for it, but it is not so violent or protracted. The voice, clear and natural at first, becomes by degrees hoarse or feeble from deficient innervation of the laryngeal muscles.

An enlarged gland, or mass of glands, lying against the trachea or one of the bronchial tubes (this may occur with tubes up to the third or fourth division), and pressing its walls inward, obviously obstructs more or less the current of air. If there is considerable obstruction, a loud sonorous râle is produced, which is heard distinctly at a distance from the chest, obscuring other râles. It is loudest when the patient is agitated, and it sometimes intermits. Feeble respiratory murmur, dyspnœa, and a cough, are not infrequent in bronchial phthisis. Diminished intensity of the respiratory murmur is general or partial, according to the seat of the compression. It has been most frequently observed at the summit of the lungs. In certain patients this symptom is not constant, the respiration being for a time feeble and then normal. The dyspnœa may be a prominent and distressing symptom, the alæ nasi dilating, and the infra-mammary region sinking with each inspiration. The cough which occurs when a gland presses on the trachea or bronchial tube, is due to the tracheitis or bronchitis to which the pressure gives rise. If ulceration occur at the point of pressure, the cough continues as long as the ulcer remains. Compression of the large veins within the thorax, which return blood from the head and upper extremities, causes more or less congestion of these parts, with, perhaps, transudation of serum in the subcutaneous cellular tissue, and within the cranium. Rarely a softened gland by ulceration gives rise to other symptoms than those mentioned, namely, hemorrhage by ulceration into a vessel, or pleuritis or pneumonitis if the ulceration is towards the lungs.

Improvement in the condition of the patient affected with bronchial phthisis is not unusual. It may be permanent, but in most patients it is temporary, so that in a few weeks or months the symptoms are as severe as before. The improvement is due to softening and elimination of a gland which had given rise to symptoms by its mechanical effect, or by the inflammation which it had excited.

Physical Signs.—These are absent or obscure in the incipient disease, when the glands are small, and they are most marked in those cases in which the glands are so large as to press on the thoracic walls, since they then become the medium for the transmission of sounds to the ear. The part of the thorax against which they most frequently press is the dorsal vertebræ, from the first to the sixth, and each side of the vertebræ, and less frequently the upper third of the sternum. The physical signs are dulness on percussion over the interscapular space, and perhaps, though to less extent, over the upper part of the sternum, and bronchial respiration in the same situations. Occasionally a bruit can be detected, due to the pressure of a gland on one of the large vessels of the chest.

Lungs.—A cough is one of the earliest and most persistent of the symptoms of pulmonary tuberculosis. It is so rarely absent that those of largest experience do

not meet with more than one or two such cases. It varies in severity and frequency. If the tuberculosis is acute and its course rapid, the cough, even from its commencement, is frequent, so as to weary the patient and deprive him of needed rest. But in ordinary cases, namely, when the disease is chronic, the cough commences gradually, attracting little attention by its infrequency, but becoming more frequent and painful as the disease advances.

Ordinarily the cough is dry in the first weeks or months, but it becomes looser in the course of the disease, from the greater amount of bronchial inflammation. In exceptional instances the cough has a spasmodic character, like that produced by pressure of an enlarged bronchial gland on the pneumogastric or recurrent laryngeal nerve. This occurs from the accumulation of viscid mucus in one or more of the bronchial tubes, usually in dilated portions of them, from which it is with difficulty expectorated.

The respiration in pulmonary tuberculosis is accelerated in proportion to the degree of tuberculization. Tuberculization of a considerable part of both lungs gives rise to dyspnœa, especially when, as is ordinarily the case, bronchial, pulmonary, or pleuritic inflammation has supervened. Pneumonitis or pleuritis gives rise to the expiratory moan, and as these inflammations, when induced by tubercles, are protracted, this symptom may continue for weeks or months.

Patients under the age of six years do not expectorate, or but rarely. After this age expectoration is not common in the commencement of pulmonary tuberculosis, but in the confirmed disease it is a pretty constant attendant of the cough. Hæmoptysis is also rare under the age of six years, and less frequent subsequently than in the adult. It is most apt to occur in those cases in which there is already passive congestion of the lungs, produced by the pressure of enlarged bronchial glands in the manner already described. Patients old enough to make known the subjective symptoms, sometimes complain of fugitive pains under the sternum or between the shoulders.

Physical Signs.—In young children the physical signs of incipient pulmonary tuberculosis are wanting, or are so obscure as not to be readily recognized. This is due to the small size and dissemination of the tubercles. In older children, because, as a rule, the tubercles are aggregated, and more frequently at the apices of the lungs than elsewhere, as in the adult, the physical signs appear early, and are readily recognized. In the advanced disease, whether in infancy or childhood, when inflammation and more or less destruction of the lung substance have occurred, the physical signs, so far from being obscure, enable us in most cases, in connection with the history, to make an immediate and positive diagnosis.

In most children affected with pulmonary tuberculosis the irregular and imperfect expansion of the lungs produces by degrees changes in the shape of the thorax, which are apparent on inspection. In some the lungs being habitually imperfectly inflated, the obliquity of the ribs is increased, and the thorax consequently elongated, while its antero-posterior and transverse diameters are diminished. This obviously increases the convexity or arch of the diaphragm, so that this muscle sometimes lies against the thoracic walls as high as the ninth or even eighth rib. If the costal cartilages are yielding, there is anterior flattening of the chest and depression of the sternum; if they are firm, on account of the more advanced age, the chest remains circular.

Another shape of the thorax is not infrequent in feeble tubercular children, especially infants, who have suffered from repeated attacks of bronchitis. It occurs also in the non-tubercular, if the conditions which favor it are present. The conditions are, on the one hand, feebleness of the patient, with diminished force of respiration and impaired resiliency of the ribs; and, on the other, obstruction by mucus of one or more of the bronchial tubes. Occlusion, more or less complete, of a bronchial tube, and consequent obstruction to the current of air, produces a corresponding degree of collapse in the portion of lung to which the tube leads. The portions which collapse are, in most cases, the lower lobes, and the thin anterior margins of the upper lobes. This causes lateral depression of the lower ribs, except such as are pressed outward by the abdominal viscera, and an anterior projection of the lower part of the sternum. The shape of the thorax in these cases differs from that in rachitis, in the fact that the lateral depression does not extend to the upper ribs, nor does the upper part of the sternum project.

Certain precautions should be observed in examining the chest by percussion and auscultation. The child should sit or recline, with the arms and shoulders in the same position, and the axis of the trunk straight. Inclination of the trunk to either side, raising or depressing a shoulder, may produce an appreciable difference in the two sides as regards the physical signs. Percussion of the two sides should be practised at the same stage of respiration. A slight difference in the degree of resonance does not afford proof of disease, unless it is observed at different examinations; for in feeble children it often happens that all portions of the lungs do not expand alike, so that where we have noticed slight dulness at one visit, it may by the next have disappeared, or even at the same visit if forcible inspirations are excited.

The physical signs ascertained by palpation, auscultation, and percussion are, as in the adult, vocal fremitus, bronchial respiration, bronchophony, and dulness on percussion. In those cases in which the tubercles are mainly at the apices of the lungs, diminished expansion of the infra-clavicular region is observed during inspiration, and this part of the thoracic wall is permanently depressed so that the clavicles are unusually prominent. If there is emphysema this flattening does not occur, or is slight. Dulness on percussion, though more frequently observed in the infra-clavicular region than elsewhere, may be present in different isolated places. If pneumonia supervene, the dulness not infrequently extends over a considerable part of one lung. The crack-pot sound is often observed on percussion, but it possesses no diagnostic value. It can often be produced, when there is no pulmonary disease, by percussing over a bronchus.

Bronchial respiration and bronchophony are important signs, as indicating solidification of the lung, but they do not show whether the solidification is tubercular or pneumonic, or the two conjoined. This must be determined by the history of the case, the extent of surface over which these signs are heard, and their persistence. When the tubercles begin to soften, and the lung tissue breaks up, moist râles appear, often hoarse and gurgling, obscuring the bronchial respiration. A cavity in the lung, or pneumothorax, is attended by the same physical signs as in the adult.

Pleura.—Little need be said in reference to the symptoms and physical signs of tuberculosis of the pleura, since this affection is in most instances associated with tuberculosis of the lungs, and is not distinguishable from it. But now and then the pleural tubercles are numerous and large, giving rise to symptoms, while those of the lungs are small, few, and without symptoms, or attended by symptoms which are

quite subordinate. Either the costal or visceral portion of the pleura may be the seat of tubercles. They are developed directly under the pleura, or upon its free surface. They are very apt to occur in the newly-formed connective tissue which results from pleuritis. Those located upon the free surface, or under the costal pleura, rarely soften, while those under the visceral pleura sometimes soften and cause ulceration. Occasionally numerous aggregated tubercles form a firm continuous layer upon the surface of the pleura, preventing, if upon the visceral pleura, full expansion of the lung. This may give rise to a degree of dulness on percussion, and feebleness of the respiratory murmur. Ordinarily, however, in this form of tuberculosis the symptoms and physical signs, so far as any are observed, are due to the pleuritic inflammation which the tubercles excite.

Stomach and Intestines.—The symptoms in tuberculosis of the stomach and intestines vary according to the seat and stage of the tubercles. Their most common seat is the small intestine, and more frequently its lower portion, near the ileo-cœcal valve, than its upper or central. They are rare in the duodenum or contiguous part of the jejunum. They are developed ordinarily in the connective tissue, either that lying under the mucous or the serous surface.

Gastro-intestinal tubercles are often accompanied by ulceration of the adjacent mucous membrane. But in a certain proportion of cases there is probably no causative relation of the tubercles to the ulcers, for ulceration of this membrane is not infrequent in the tuberculosis of children, when there are no tubercles in the walls of the stomach or intestines. The following statistics of Rilliet and Barthez, relating to this point, will aid in an understanding of the symptoms:

Tubercles in walls of stomach, 7 cases. { **with ulcers, 6 cases.** / **without " 1 case.**

Ulcers of gastric mucous membrane, without gastric tubercles, 14 cases.

Tubercles in small intestines, 82 cases. { **with ulcers, 70 cases.** / **without " 12 "**

Ulcers without tubercles in small intestines, 51 cases.

Tubercles in large intestine, 15 cases. { **with ulcers, 10 cases.** / **without " 5 "**

Ulcers in large intestine, without tubercles, 47 cases.

The ulcers have vascular, thickened, and infiltrated borders. Their diameters vary from a line to half an inch or more, and their general form is circular, or, if two or more unite, irregular. Tubercular ulcers of the stomach are mostly in the great curvature, those of the small intestines in the ileum and lower part of the jejunum, and those of the large intestine in the cœcum.

Tubercles, whether gastric or intestinal, are not at first accompanied by symptoms, or the symptoms are obscure and ill-defined. Symptoms arise when inflammation occurs in the adjacent tissues. Diarrhœa is one of the most common and persistent of the symptoms. The alvine discharges are brown and thin, and sometimes in advanced cases very offensive. They may be streaked with blood which has escaped from the ulcers. Intestinal tubercles, developed immediately underneath the peritoneal coat, sometimes cause local peritonitis, usually of little extent. This gives rise to circumscribed pain, tenderness, and more or less meteorism.

Diagnosis.—It is evident from the foregoing description of symptoms that the diagnosis of incipient tuberculosis is much more difficult in children than adults. Before commencing the examination it is advisable to learn the hereditary tendencies of the family and the history of the patient, especially as regards antecedent diseases or debilitating agencies, and the duration of the symptoms.

Tuberculosis of the encephalon is diagnosticated with more difficulty than that of the thoracic or abdominal organs; but certain of these organs are in most cases tubercular at the same time, and the knowledge of the fact that they are affected aids in the diagnosis of the disease of the brain or its meninges. Among the symptoms which possess diagnostic value may be mentioned cephalalgia and more or less fever, with exacerbations in the commencement of the disease, and at a more advanced period strabismus, inequality or irregular action of the pupils, impairment of vision, retraction of the head, and convulsive movements or paralysis.

In certain cases careful observation and discrimination of symptoms are requisite, in order to determine whether they arise from intra-cranial tubercles or from congestion of the brain caused by obstruction in the venous circulation by the pressure of enlarged bronchial glands.

The diagnosis of bronchial phthisis, when the glands are still small, is necessarily uncertain, on account of the absence of symptoms. When they have increased in size and are so located as to press on the pneumogastric or recurrent laryngeal nerve, producing the spasmodic cough already described, the differential diagnosis between that disease and pertussis may be made by attention to the following facts: Bronchial phthisis occurs singly, and is non-contagious, while pertussis occurs as an epidemic, and with evidences of contagion. There are no successive stages, namely, those of catarrh, paroxysmal cough and decline, as in that disease, and the cough, though paroxysmal, is short, and without hoop or vomiting.

In feeble children, with inherited tubercular diathesis, emaciation, sweats, and a chronic cough, with the absence of pulmonary symptoms, should excite suspicions that the bronchial glands are involved. The evidence is almost conclusive if the cough becomes paroxysmal, and there is a loud, persistent, tracheal or bronchial râle.

In certain of the patients affected with this form of the disease, we have seen that the prominent symptoms are due to compression of one or more of the large vessels in the chest. Compression of these vessels, and consequent retarded circulation, may be confidently referred to enlarged bronchial glands, since aneurisms, carcinomatous or other tumors, which would produce a similar result, are very rare before puberty. Sometimes the diagnosis is rendered certain by the physical signs observed by auscultation, and percussion over the sternum and the interscapular space. The condition of the external glands should also be observed, as those of the axilla, neck, and groin.

The diagnosis of pulmonary, though more readily made than that of intra-cranial and bronchial tuberculosis, is often difficult and uncertain. This is, in part, explained by the fact that the tubercles are so frequently disseminated, while emaciation and a chronic cough are not infrequent from other causes than tubercles. Rachitis, intestinal worms, dentition, simple tracheal or bronchial inflammation, may be attended both by a chronic cough and emaciation. Caution is therefore requisite in order to avoid a grave error in diagnosis. Precipitancy in the diagnosis of doubtful cases is worse than indecision, and it is often best to postpone an expression of opinion as to the nature of the disease till the case has been observed for a few days.

The significance and importance of the symptoms, physical signs, and other facts on which a diagnosis

must be based, have already been sufficiently pointed out. It is difficult, in fact in certain cases impossible, to discriminate between simple cheesy pneumonia and cheesy pneumonia which has ended in the formation of tubercles. The patient has an attack of catarrhal pneumonia; but instead of absorption of the inflammatory product, cheesy infiltration occurs, and the lung in places becomes infiltrated with pus, softens, and breaks down. The patient presents the symptoms and physical signs of phthisis. He may recover after a protracted sickness, or may die. The disease may, and often does, remain a pneumonia; but this is a condition of the lungs which favors the development of tubercles, and in a certain proportion of cases tubercles do form in the last weeks of life. Though the differential diagnosis in such cases between simple pneumonia and tuberculosis supervening on pneumonia is impossible, practically the discrimination is unimportant, as the same treatment is required.

Advanced pulmonary tuberculosis, except when it supervenes upon pneumonia, can in most instances be readily diagnosticated by a careful examination. Still it is to be recollected, as already pointed out, that certain of the symptoms and physical signs, which occurring in the adult would afford almost positive proof of pulmonary tuberculosis, in children not infrequently have a different origin.

The diagnosis of tubercles in the abdominal organs is facilitated by the presence of symptoms which indicate at the same time tuberculosis of the lungs. Among the chief diagnostic signs of tuberculosis of the peritoneum may be mentioned meteorism and a degree of tenderness on pressure. But there is danger of mistaking the tympanitic state of the intestines common in ill-nourished infants and the rachitic, or the fulness due to enlarged spleen or liver, to that occasioned by peritoneal tuberculization, and vice versâ. The history of the case, and a careful examination of accompanying symptoms, and the shape and feel of the abdomen, usually suffice to establish the diagnosis. In simple gaseous distension of the abdomen there is an absence of the symptoms, general and local, which attend tuberculosis; rachitis occurs at an earlier age than peritoneal tuberculosis, and digital examination, aided by percussion, enables us to diagnosticate enlargement of the liver or spleen.

Tubercular enlargement of the mesenteric glands cannot be positively diagnosticated when they are small. When they have attained such a size that they can be felt through the abdominal walls, palpation in connection with the history and symptoms of tuberculosis suffices to establish the diagnosis. The glandular tumor can be diagnosticated from other tumors by the fact that they are tender on pressure, and occupy the umbilical region, while fecal tumors are not tender and are located in the iliac or lumbar region. Gastro-intestinal tuberculosis cannot be positively diagnosticated. Protracted diarrhœa, or frequent attacks of diarrhœa, not readily controlled by medicine, and occurring in tubercular cases, are probably associated with intestinal ulceration; but in only a certain proportion of cases of ulceration are there also tubercles in the walls of the intestines.

Prognosis.—Death is the ordinary result of tuberculosis in the child, as it is in the adult; but now and then one recovers. Hospital statistics show that the average duration of the disease is from three to seven months. Under favorable circumstances it is more protracted, even to two or three years. Those succumb soonest who inherit a strongly-marked tubercular diathesis, live in damp, dark, and ill-ventilated apartments, and whose diet is scanty or of poor quality. Therefore in the poor quarters of the city tuberculosis presents a worse form and pursues a more rapid course than among families in better circumstances.

Favorable prognostic signs are absence of tubercular diathesis, good appetite and general health, with little emaciation, infrequency of cough, with respiration, pulse, and temperature nearly normal. Such symptoms may afford hope of recovery with judicious regimenal and therapeutic measures. On the other hand, if the symptoms are grave, death is inevitable, unless in bronchial phthisis, in which, even when there is considerable urgency of symptoms, the offending gland is sometimes eliminated by softening and ulceration, and the patient improves temporarily, if he does not ultimately recover. Complete and permanent recovery is, however, quite exceptional.

Death in tuberculosis of children may occur from exhaustion induced by the general disease, or from the local effect of the tubercles. Thus in intracranial tuberculosis it may result from coma, in pulmonary tuberculosis from dyspnœa—though more frequently from exhaustion—in that of the bronchial glands from coma, dyspnœa, exhaustion, or even from hemorrhage, in that of the abdominal organs from peritonitis or protracted diarrhœa.

Treatment, Prophylactic.—Though tuberculosis is so obstinate and fatal, it is often in our power, if forewarned, to avert it. A nursing infant, whose mother has the disease, should be immediately taken from the breast and intrusted to a wet-nurse. The health of the mother as well as infant requires this. If the father has the disease, and the mother's milk is inadequate or of poor quality, and the infant is under the age of six months, the same change should be made, rather than supply the deficiency by artificial feeding. Children who are weaned should have plain but nutritious and easily digested diet, a part of which should be milk. If the predisposition to tuberculosis is strong, a little alcoholic stimulant may be allowed three or four times daily in the milk, though with the risk of creating an appetite for it. To an infant two or three drops of Bourbon whiskey may be given for each month of its age, and to children of three to five years a teaspoonful. Residence in an airy and salubrious locality, out-door exercise, a scrupulous avoidance of exposure by which a cold might be contracted, are necessary in order to the continued latency of the diathesis. Loss of flesh or appetite, or other evidences of failing health, indicate the need of additional measures of a therapeutic character. Iron, with cod-liver oil, citrate of iron and quinine, elixir of calisaya bark, or other tonic, should be employed in connection with the alcoholic stimulant and suitable regimen. By the employment of such precautionary measures as soon as indicated, multitudes of children might be saved from this disease who now perish.

Curative.—The treatment of the general disease should be the same in children as in adults. The medicinal curative agents which are required in ordinary cases are cod-liver oil, iron, or other tonic, and an alcoholic stimulant given three or four times daily. The oil is less unpleasant and more readily taken when combined with the stimulant. An eligible mixture is equal parts of cod-liver oil and wine of iron, or cod-liver oil with half its quantity of Bourbon whiskey, and a few drops of the tincture of chloride of iron. It should be given after nursing or the meals. At the age of one year two drops of the tincture of iron and a teaspoonful of cod-liver oil would constitute an ordinary dose.

If the cod-liver oil is not tolerated, or if it impairs

the appetite, it should be discontinued. In cases of diarrhœa it is of little or no benefit, and it may do harm. Under such circumstances patients sometimes do better with simple regimenal measures, aided by alcoholic stimulants, and one of the least unpleasant of the tonics, as wine of iron or the calisaya bark. The regimen already recommended for prevention is also required as a part of the curative treatment.

Certain modifications of treatment are demanded on account of the localization of the tubercles. Intracranial tuberculosis, as soon as diagnosticated, should be treated by pretty decided doses of iodide of potassium, though, unfortunately, there is little prospect of improvement. The glandular disease, whether bronchial or mesenteric, requires the iodide of iron, with or without that of potassium. Pneumonitis or pleuritis, so frequent a complication of pulmonary tuberculosis, requires emollient poultices, with moderate counter-irritation, and the judicious use of opiates with stimulants. The peritonitis occurring in abdominal tuberculosis, which is usually circumscribed, is best treated by fomentations and poultices, with opiates, and the diarrhœa by subnitrate of bismuth and chalk, five to ten grains of each, or the bismuth with Dover's powder; or a more active astringent.

Original Communications.

BLOODLETTING IN OBSTETRIC PRACTICE.

BEING THE ABSTRACT OF A PAPER READ BEFORE THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK, DEC. 5, 1870.*

By FORDYCE BARKER, M.D.

Recently, while attending a patient in confinement, he found indications for venesection; and, not having a lancet at hand, stepped into the nearest instrument-maker's to procure one. There was not a lancet to be found in the shop! The attendant apologized; said they had little call for that article, but they had some making, which would be ready in a few days. This was an amusing index of the change which had come over the practice of the profession in the last twenty or thirty years. Doubtless, our predecessors bled more times in a week than we in a year. In all his obstetrical practice, in consultation, for the last fifteen years, he could not recall a single instance where bloodletting had been even alluded to, except in a few cases of puerperal convulsions.

He had made a careful examination of the standard authorities in midwifery of thirty years ago, a long list of whom he cited. By one or all of them bloodletting was recommended for the following, among other conditions, in gestation, parturition, and the puerperal state:

In gestation: for uterine irritation, uterine plethora, erratic pains, cramps of the lower extremities, spasmodic cough, palpitation, pruritus, solitude, anxiety, drowsiness, anasarca, to prevent abortion, and to promote expulsion where abortion is inevitable. One woman was reported as having been bled eighty-six times in one pregnancy, and another eighty-seven times!

In parturition: for false pains, where the patient is plethoric; for irregular uterine contractions with pains feeble; for extreme rigidity of the os, or of the perinæum; to prevent inflammation; to prevent, and to cure, convulsions.

In the puerperal state phlebotomy constituted the most essential part of the treatment for the arrest and cure of all the post-partum inflammations, metritis, peritonitis, etc.; and by many it was recommended in phlegmasia dolens.

As some one of the above conditions was pretty sure to occur in the course of pregnancy, parturition, or the puerperal state, it came about that almost every patient was bled at least once, and often many times, with every child. No doubt we could, nearly all of us, recall the picture of some jolly old grandmother, proud of her eight or ten children, and of the blood she had shed for each of them.

But were our predecessors all wrong, and is the recent practice all right? For his own part, the speaker found that, as he gained wider experience, he was gradually coming to bleed more frequently. This change in his practice had not arisen from any belief in a change in the constitution of the patients. But he had, for a considerable time, had a growing impression that this resource had been too much neglected—an impression recently strengthened by the suggestions contained in the introductory address of Dr. Benjamin W. Richardson. That paper, which he was surprised to see commanding so little attention in his country, no man in active practice could read without being instructed.

The speaker proposed to consider bloodletting exclusively as a remedy in obstetric practice. It was in this that it was formerly resorted to most frequently, and carried to the farthest extreme; and it was this in which it was now perhaps most neglected. He would speak of it in the diseases of pregnancy, in the complications of labor, and in the affections of the puerperal state.

Vertigo, flushing of the face, etc., used to be regarded as evidences of cerebral congestion, and bloodletting as the main remedy. To Cazeaux belonged chiefly the merit of calling attention to the fact that the most frequent of those disorders formerly attributed to plethora were really due to impoverishment of the blood, although doubtless many had before noticed that hydræmia gives much the same symptoms as plethora. Andral, indeed, had pointed out that a too great and a too small number of corpuscles passing through the vessels of the brain produce effects very similar. Cazeaux's tonic treatment had become generally adopted; but one result of this might be that real plethora was sometimes overlooked. Some feeble women would have the constitution so changed in pregnancy as to gain strength and flesh, and might become truly plethoric; and this might interfere with the fœtal circulation and produce derangements in the maternal. That the cessation of the fœtal movements is sometimes due to this cause was shown by the return of those movements when the mother is subjected to a moderate loss of blood.

Even in hydræmia there might be a serous congestion, a too great quantity of blood, where benefit would be derived from venesection followed by a tonic regimen and good diet.

Uterine and renal congestions—the former seen much oftener in feeble women—almost always made their appearance at the menstrual periods, when the woman would complain of tension and swelling of the abdomen, and of weight in the pelvis. If proper measures were not employed to reduce the congestion of the uterus, there might be a little flow of blood from it and some danger of abortion. This was commonly accompanied by marked vesical irritation. If

* Vide page 520.

these symptoms did not readily disappear, the speaker believed bleeding to be the best treatment, following it by chlorate of potassa and iron.

Of renal congestion he would only say that it is but recently we have learned that in some cases of cerebral congestion the primary hyperæmia is to be found in the kidneys. This was seen especially in the albuminuria of pregnancy. For a few years past he had succeeded in warding off the convulsions due to this cause by slight venesections, with a certainty such as he had never before gained by other means. He related a recent case of sudden and severe convulsions, in which he had taken thirty ounces of blood, besides inducing active purgation by elaterium. The woman had a few more convulsions, but completely recovered in a few days. On the same day with this case, he had seen, in consultation, a primipara in uræmic coma a few hours after delivery. Two or three days before, she had begun to complain of a fixed pain at the fundus uteri, which was unaccompanied by contractions, and which did not yield. The labor was rather tedious; the forceps were employed, and a dead child was delivered. The placenta came away readily, and on its uterine surface was found an organized clot as large as a man's hand. The patient died in three hours after he saw her. But little urine could he drawn from the bladder, and that was highly albuminous. It would seem as if nature had tried to relieve the renal congestion, and to relieve it by bleeding.

It was a great mistake to suppose that bloodletting should never be resorted to except in the sthenic condition. Some of the most decided benefits he had seen derived from it had been in cases of patients extremely anæmic. As an instance, he was called to a chlorotic woman in the last days of gestation; found the heart's action labored and tumultuous, the face covered with perspiration, and every symptom of the greatest distress. As speedily as possible he was opening a vein, when the gruff, hearty voice of old Dr. Francis greeted him with, "Well done, good and faithful servant." The abstraction of sixteen ounces of blood relieved the pulmonary œdema and the distension of the right heart, and doubtless saved the woman's life. Two days later the woman was delivered of a dead hydrocephalic child, after discharging an immense quantity of waters. "She must have discharged a tub-full, sir," said Dr. Francis.

In parturition there was now little occasion for the use of bleeding to overcome causes of delay. In the warm douche, belladonna, and chloroform, we had better means of softening the os. Its chief use now, at this period, was to prevent threatened convulsions or apoplexy, by relieving spinal or cerebral congestion. This it would do where the tendency to convulsions was owing to over-stimulation of the nervous system from excess of blood, or to pressure from the same cause. Again, where the danger was dependent on uræmia, this measure was of cardinal importance. The speaker fully concurred with Dr. Richardson, that in cases of uræmic poisoning, where the urine is almost suppressed, where the convulsions are strong, and the coma is deep, there is no remedy so sure as the lancet. To bleed is to remove tension from the brain, to remove congestion from the lung and make free the breathing, to remove congestion from the kidney and restore its functional activity. Moreover, it should be considered that we are at the same time removing with the blood the poisonous material with which it is charged. Of two animals, each with the function of one kidney suppressed, one will live if, when uræmic convulsions appear, blood be drawn; the other, let alone, will die.

In inflammatory affections the indications were to prevent or arrest the progress of the inflammation, or to remove its results. Although it was probably even now generally believed that bloodletting would fulfil one or more of these indications, yet we had other means safer and quite as sure; and the speaker had not for many years employed it in any post-partum inflammation. Perhaps he had sometimes erred in this. One case in particular he looked back upon with regret that he had not drawn blood. A beautiful young lady, four days after her first confinement, was attacked with very violent metroperitonitis, and, in spite of the best professional counsel, died on the twelfth day. She had lost very little blood at the time of delivery.

It was even to be feared that, in the effort to prevent post-partum hæmorrhage, we may have carried too far our measures for producing immediate contraction of the uterus. The speaker had been much impressed by a remark of Dr. Peaslee's, in reference to an amputation at the shoulder-joint, that as much blood ought to be lost in the operation as had before circulated in the limb, in order not to induce a real plethora. He had added that this principle was of equal importance in midwifery, and a perfectly healthy woman should lose at least a pound or two in labor. Dr. Barker could not agree fully with this proposition, but thought it applied justly to some exceptional cases.

On bloodletting in puerperal fever the Doctor had before expressed his views; and they had not been essentially modified by his last fifteen years' experience, including a lying-in service at Bellevue Hospital.

In certain rare cases of puerperal mania, venesection might be of service. Although in the great majority of instances this affection resulted from defective nutrition and nervous exhaustion, yet this was not true of all. A young lady, who had been doing so well after confinement that the Doctor had ceased his visits, began on the thirteenth day to exhibit symptoms of mania, which soon became uncontrollably violent. She had complained of pain in her breasts; her pulse was somewhat quickened; temperature 103° F. With great difficulty she was held while a vein could be opened; but as the blood flowed she became quiet, sank down in the bed, and fell into a sound sleep while he was bandaging the arm. It was estimated that about fifty ounces were drawn. The cure was complete, and after this convalescence was rapid, without an untoward symptom. The Doctor had never seen a case of puerperal mania so promptly and happily yield to treatment.

A NEW OPERATION FOR THE RADICAL CURE OF INGROWING TOE-NAIL.

By F. B. LAWSON, M.D.,

NEW YORK.

The operations for ingrowing nail are so numerous that it seems like an imposition to add another to the list; but as on the one hand they are all either palliative or quite formidable in character, and as on the other these objections cannot be made to the operation that is about to be described, there is an excuse for making the addition. Neither is it necessary, at this time, to call attention to the causes of inversion of the nail, or to refer to the several operations that have been suggested for its relief; these details can be obtained in another way.

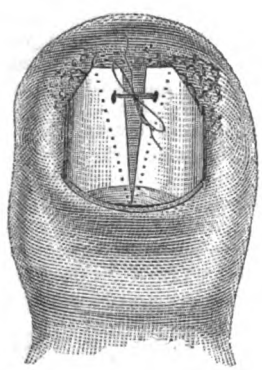
Taking the disease as it presents itself to the surgeon, the question arises relative to preparatory treatment. In the majority of cases none is required. There are

some, however, in which fungous granulations must be removed, or inflammation reduced by antiphlogistic methods, especially by the application of poultices. This having been done, the patient is ready for the operation, and my method of performing it is to remove a V-shaped piece of the back of the nail, and draw the edges together with a ligature, and at the same time, or subsequently, to remove the inverted portion with the scissors.

The dimensions of the V-shaped piece will vary in each case. Its apex should extend at least to the lunula, and in the majority of cases to the edge of the scarfskin which overlaps the nail at its root. Its base should be about a quarter of an inch in breadth, but if both corners of the nail are inverted, it will be necessary to make it broader. This piece should always be removed with the point of a scalpel, and not with the scissors, and the incision made on an angle, so that it can be easily separated from the matrix.

A silk ligature, well waxed, is preferable to every other (I have used wire and found that it did not answer the purpose as well), and can be used in two ways, either by notching the free edge of the nail, or by passing a needle through it. I prefer the latter method, for then there is no chance of its slipping. If the nail is thick, it will be necessary to bore through it with the point of the knife; then the needle, which should be small and curved, is easily managed. In this instance I always use the surgeon's knot, and draw it as tightly as the condition of the nail will admit of, and fix it with a bow knot.

It may be advisable at the time of the operation to remove the inverted portion or portions. This is, however, not always necessary, nor is it always possible without giving the patient great pain; but whenever it is done the scissors will be found to be the proper instrument, and with it the corner or corners of the nail should be cut out obliquely, as shown in the cut, which also illustrates the other steps of the simple operation described.



As a dressing, when one is required, I have had most success with Goulard's cerate. A small bit of carded cotton may be soaked with it, and the whole packed into the sides and under the edges of the nail. It should be changed daily, and the parts well washed with warm water and soap. On seeing the patient two or three days after the operation it may be well to tighten the ligature; hence the advantage of having used the bow knot. Treatment may be discontinued after all inflammation has subsided, but the ligature should be allowed to remain for a number of weeks—until the nail has grown considerably—when it may be removed by the patient, who should be instructed to do it by cutting the nail square across and even with the end of the toe.

I have performed this operation for nearly three years on a large number of cases—many of them were Dispensary patients—and in every case with complete success.

The advantages of this method over every other with which I am acquainted, are almost too numerous to mention. Instead of disabling the patient, it gives almost immediate relief. The tightening of the ligature removes the source of irritation, as well as narrows the end of the nail, thereby preventing subsequent trouble. If there are granulations under the nail, as is not unfrequently the case, the pressure produced by the ligature destroys them, and also acts as a compress to the inflamed tissue. The operation is, for the most part, painless and bloodless, so that chloroform or ether is never required. Within two or three days even the patients have so far recovered as to be able to wear a shoe, and walk without difficulty, and will often present themselves at the end of this time, with little or no inflammation of the parts, and express their gratitude for having been so easily and quickly relieved.

31 West Thirty-first Street.

Progress of Medical Science.

THE BIPOLAR METHOD OF TURNING.—At a recent meeting of the Boston Obstetrical Society, Dr. Fifield alluded to the method of turning by *one or two fingers*, which had long been advocated by Dr. Robert Lee. Barnes, he thinks, does not give him sufficient credit for this. Dr. Fifield has twice used the bipolar method of turning, with perfect success.—*Boston Med. and Surg. Journal.*

WOMB DISEASE AND APHORISMS OF UTERINE THERAPEUTICS.—Dr. E. N. Chapman, late Professor of Obstetrics in the Long Island College Hospital (*Med. and Surg. Reporter*), gives a summary of 354 cases of womb-disease, and the following aphorisms of uterine therapeutics: Uterine disease invariably falls within the limits of the menstrual age, neither arising before the advent, nor continuing after the decline of this epoch. In no case did the attack precede puberty, or follow the climacteric period; the youngest subject under treatment being 18, and the oldest 56 years of age. A change of life—a retrograde step by which the internal genitalia return to their original condition—is Nature's mode of cure—a mode invariably certain. Chronic cases of congestion are not benefited by a menorrhagia or a metrorrhagia, the discharge being a mere leakage from overcharged vessels that have lost their contractility. The duration of uterine disease may be coextensive with that of the menses, unless pregnancy or art interferes. The longest time recorded is 28 years, the shortest, 3 days; the mean, 3 years and 3¼ months. The prognosis, even with the unfavorable surroundings of a dispensary practice, is extremely flattering. Of the 219 cases treated locally, 165 were cured and 15 benefited. One recovered by a change of climate, and one by the growth of an ovarian tumor.

It may be safely premised that, in private practice, 85 to 90 per cent. of uterine cases admit of a perfect restoration to health.

Vaginitis is part and parcel of uterine congestion, and is due to a repletion of the erectile coat of the vagina. This repletion distending the vascular papillæ, induces mucous inflammation, which, being consecutive, abates proportionately with the underlying congestion

that feeds the papillæ, but is not benefited by a specific treatment. Of the 165 cases cured, 40 had this complication.

PROGRESSIVE MUSCULAR SCLEROSIS.—Drs. William Ingalls and S. G. Webber, of Boston, Mass. (*Boston Med. and Surg. Journ.*), report a fatal case of *Progressive Muscular Sclerosis*. It occurred in a child, of Irish parentage, 5 years and 2 months old. At the age of 3 years he was quite a healthy child, but about that period he began to move and act as though he had less strength than usual; this condition increased, and the spinal column became very weak, and the "inward crook" of it was noticed by the mother. On the day of admission into the Children's Hospital, Boston, the spine presented a regular and exaggerated curve inward, from the third and fourth dorsal vertebræ to the sacrum. This shape comes well under the name given by Duchenne—"saddle-back." The patient died on the 5th day after admission, having had convulsions on the day of his death.

The attending physicians remark that the first case of this disease was noticed only about 12 years ago, and they have been able to find the records of only 41 cases; 21 in German, 13 in French, and 7 in English medical journals. Dr. Meredith Clymer's able paper on the "palsies," published July 15th, 1870, in the MEDICAL RECORD, is alluded to; but Drs. I. and W. have neglected to notice the first recorded case of *progressive myro-sclerosic palsy*, by Dr. Edward Meryon, who on the 9th of December, 1851, read a paper before the Royal Medical and Chirurgical Society, and described the history of this case.

CURE OF ULCERS BY TRANSPLANTATION OF SKIN.—In the *Medical Times and Gazette* of Oct. 29th is an article by Mr. Dobson of the General Hospital, Bristol, Eng., on the treatment of ulcers by transplantation of skin, according to the method of M. Riverdin, in which he describes the mode of procedure and reports several cures. He says: "To sum up the behavior of these minute particles of skin in their novel situation, once for all, I may say, speaking generally, that at or about the second day the cuticle begins to separate; that by the fourth day only a faint pale spot marks the insertion, or there may be no evidence of it left at all; by the sixth day a faint vascular tuft of granulation appears; this becomes glazed, and in a few days more the usual covering of cicatrix is formed. The patch is usually circular and presents slight ridges: its aspect, as a whole, is difficult to define in words; it bears some resemblance to a flattened, badly-marked limpet shell; it requires to be seen to be understood. This patch continues to increase in size circularly, until it reaches its maximum of growth." "I have never seen a patch larger than a florin" about 1¼ inches in diameter (sic), and I have now seen large numbers of them; I should say that their average growth will not exceed the size of a sixpence. This, then, is their true history as I have observed it. Of course it is subject to variations, and here and there a graft may fail either from a fault in the skin or granulations, or from some want of delicacy or from carelessness in the manipulations, for it is just one of those procedures which, though simple and easy of execution, require care and attention to minute details.

In the Reports of Hospital Practice, in the same journal, the editor gives the results of this mode of treatment as pursued in the St. George's, Westminster, University College, Middlesex, and Charing Cross Hospitals, the Seamen's Hospital at Greenwich, and the Devon and Exeter Hospital, in all of which it had been successful in aiding the cicatrization of large granulating surfaces.

A NOVEL FRACTURE.—A case of fracture of the anterior superior spinous process of the ilium by muscular contraction, is reported by Drs. S. Joy and J. W. McWhinnie, of Montreal (*Canada Medical Journal*), occurring in a medical student, aged seventeen, who was engaged in a foot race where a certain distance had to be run, then to turn and run back. In the exertion of turning he felt something snap in his right hip, walked a few steps and fell. In two weeks the patient made a good recovery without displacement.

Although the patient was a very muscular young man, yet it is difficult to believe that the sartorius muscle is sufficiently powerful to fracture its point of origin, but the case was examined most carefully by these surgeons, and they believe there was no room for doubt about the diagnosis.

THE USE OF CHLORAL IN CEREBRO-SPINAL MENINGITIS.—Dr. James S. Whitmire, of Metamora, Ill. (*Chicago Med. Examiner*), considers this drug, in the treatment of this disease, a great acquisition to our stock of heroic remedies. In two cases where chloride was given his success was complete.

CLOSURE OF THE EUSTACHIAN TUBE.—In proof of its extreme infrequency, Lindenbaum has yet been able to collect, in the *Archiv für Ohrenheilkunde*, only four authentic cases of closure of the pharyngeal orifice of the tube, and these were usually produced by cicatrization from syphilitic ulcers.

THE PHENOPHTHALMOTROPE.—Dr. Donders, of Utrecht (*Med. and Surg. Reporter*), has invented a machine for elucidating the movements of the eye-ball, which he calls the *phenophthalmotrope*. By means of it the mathematical analysis made by Prof. Helmholtz of the ocular movements may be practically demonstrated.

OINTMENT OF MERCURIC NITRATE.—R. Rother (*The Pharmacist*) recommends the subjoined formula in the preparation of mercuric nitrate: Take of mercury 1½ troy ounces; nitric acid, sp. gr. 1.42, 3½ troy ounces; lard (pure), 16½ troy ounces. Dissolve the mercury in 900 grains of the nitric acid, with the aid of heat, and keep the solution gently warm to prevent crystallization before it is used. Melt the lard with a moderate heat, then add the remainder of the nitric acid. When effervescence ceases and the liquid only boils even under an increased heat, remove the mixture from the fire, and when it begins to stiffen, add the mercurial solution, and mix thoroughly.

HYDRATE OF CHLORAL IN DELIRIUM TREMENS.—Wm. S. Bowen, M. D., U. S. N. (*Boston Med. and Surg. Journ.*), advocates the use of this remedy in mania-a-potû, and publishes a case being confirmatory of its efficacy. He administered it in doses of from 20 to 60 grains, in water flavored with ol. menth. pip.

CANTHARIDINATE OF POTASSA.—In a recent number of the *Journal de Chimie Médicale* M. Delpeche calls attention to the defects of the ordinary preparations of cantharides; the proportion of the active agent, or cantharidin, varying, the presence of fatty or oily substances sometimes causing the absorption of a dangerous poison, and the rosin or turpentine employed in the composition of the plaster being an unnecessary irritant. In place of this he recommends the *cantharidinate of potash*, which is of very stable composition—has no odor, and possesses a vesicant action in a high degree. He recommends, as the best formula for the plaster, gelatine, 2.09 parts; water, 10 parts; alcohol, 10 parts; cantharidinate of potash, 0.20 parts; glycerine, 9.05 parts. The mass should be equally spread on thin gutta-percha, a definite quantity being present in each square inch.

New Instrument for Securing Pedicle.—Dr. Graily Hewitt, Professor of Midwifery in the University College, writes in the *British Medical Journal* for October of "a new instrument for securing the pedicle in the operation of ovariotomy." He describes it as follows:—

A framework of steel shaped something like a shoe buckle, measuring two inches and a half by one inch and three-fourths; the piece of steel of which the instrument is made being two-eighths of an inch wide, and one-eighth of an inch thick, is provided with studs or buttons, eight in number, three on two sides, and one on each of the other two sides. These buttons project three-eighths of an inch from the steel framework. It is to be used in the following manner: The pedicle, having been roughly trimmed, is perforated with a needle armed with a double strong thread, or whipcord ligature, in two or three places, according to the width of the pedicle. It is then tied in segments, and the opposite ends are secured to the buttons of the framework above, one by one. The pedicle is now surrounded by the framework, while the cut edge of the pedicle is freely open to inspection and treatment in the centre; the tightness with which the ligatures are applied keeping the pedicle from slipping into the abdomen.

The advantages of this method are, he thinks, that the wound can easily be dressed; the pedicle is always accessible. The framework makes no pressure whatever on the edges of the wound at the point where the pedicle emerges, and the healing and covering of the whole wound are facilitated.

New African Ordeal Poison.—MM. Rabuteau and Peyre have been experimenting with the root of a plant in use at the Gaboon as an ordeal poison and locally known as m'boundon or icaja. It will be remembered that it was from this source that the highly valuable Calibar bean was obtained and utilized in medicine.

The authors state that, even in very dilute decoctions, it is very bitter and appears to contain one or more alkaloids, since the aqueous solution is largely precipitated by iodide of potassium, and also by phosphomolybdic acid. The poisonous effects of this substance bear some similarity to the effects of brucia, but the authors state that, under certain conditions, this poison does not hurt man. Some of the lower animals are readily killed by it. A dose of three milligrammes of the alcoholic extract, placed under the skin of a frog, kills it, and rabbits and dogs are killed by doses of from fifteen to twenty-five centigrammes of the same extract introduced into the stomach.

Chlor-alum, the new Antiseptic.—Under the name of chlor-alum, Mr. John Gamgee (*British Med. Journal* for Oct. 10th) has introduced to the medical profession and to the public generally a solution of hydrated chloride of aluminium, which bids fair to take an important position among the antiseptics and disinfectants. Its chemical activity depends, to some extent, upon the amount of potential muriatic acid. Many bad smells which carbolic acid might indeed overcome in virtue of its own strong odor, but which it cannot destroy, are at once removable by chloride of aluminium. Thus the fœtid stench from cabbage-water is at once removed by chlor-alum, but not by carbolic acid. In this respect chlor-alum has some advantages over even permanganate solution, which, as is well known, destroys fœtor by oxidizing the fœtid substance, but which is almost powerless against, or acts very slowly upon, some varieties of malodorous things that have the property of not being very easily oxidizable.

The smell arising from putrid fish affords a specially favorable case for exhibiting the powers of chlor-alum. The agent in general use to which chlor-alum most closely approximates is chloride of zinc, which, like it, is specially potent against offensive organic ammonias. It appears that even in strong solutions it is not corrosive and will not injure textile fabrics. Its price is about one-tenth of that of the chloride of zinc.

Prevention of Scarlatina.—In a pamphlet lately published in England on *Scarlet Fever and its Prevention* by Dr. William Budd, and reviewed in the October number of the *Brit. Med. Journ.*, the author declares that so remarkable has been his success with the method of isolation and disinfection which he has practised, that for a period of twenty years he has never known this disease to spread in a single instance *beyond* the sick room, and in a very few instances within it.

Sea Sickness. — Dr. O. Rapin, of Switzerland, says that he has found that the nausea and vomiting produced by swinging and sea-sickness can be arrested by applying to the epigastrium a layer of wadding dipped in collodion. It should extend from the xiphoid cartilage to the umbilicus, and be left until it falls off. If the adhesion should be imperfect, the application should be renewed. Several persons, he says, have tried this plan with benefit.

The explanation which he gives of it is, that the action of the peripheral nerves is interrupted just in the same way as the pain of calculi in the bile-passages or ureters is sometimes mitigated by the application of castor oil and collodion.—*Br. Med. Journ.*, Oct. 15th, 1870.

Mollities Ossium and Fracture of Ribs in Insane.—In the *Edinburgh Med. Journ.* for Nov. there appears an article by W. Lauder Linsay, M.D., Physician to the Murray Royal Institution for the Insane, at Perth, in which he speaks:

1st, of *mollities ossium* in the insane, to show that it sometimes exists in as marked a degree as among the sane; and as bearing on,

2d, *Rib-fracture* in the insane, to point out (*a*), the frequency of self-injury; (*b*), the very slight violence sometimes required for rib-fracture; (*c*), the existence of serious or fatal surgical injury without external marks or any relative symptoms; (*d*), the importance of post-mortem examination in the detection of masked or unsuspected injury; (*e*), the desirability of distinguishing from each other injuries that are 1st, accidental, 2d, self-inflicted, 3d, the result of mal-treatment by attendants; (*f*), the injustice of attributing rib-fractures and similar injuries necessarily to attendants; (*g*), the frequency of such injuries is a necessary consequence of the non-use of mechanical restraint; (*h*), those who are responsible for such injuries are, therefore, those who have advocated the *non-restraint dogma;* (*i*), there are *no* pathological lesions in this affection peculiar to insanity.

Senile Contraction of Vagina.—In a recent number of the *Dublin Quarterly Journal*, Dr. Alfred McClintock, of Dublin, calls attention to what he terms *senile contraction of the vagina.* He says: "In what I may call the minor forms of this contraction, we find simply a transverse fold of the vagina projecting inwards, and presenting to the finger a sharp concentric edge. This seldom engages more than one-third or one-half the circumference of the canal, and is generally situated on the posterior wall, a little better than half way up; but I have also met with it higher, or implicating the os itself by one or the other of the semilunar valve-like projections. There is another and more important variety of this species of contraction which I have occasionally observed. *The capaciousness of the vaginal cul-de-sac, so noticeable in women who have borne children, gives place*

to the "contraction I now wish to describe, in which there takes place a progressive diminution of the calibre of the vagina, not throughout its entire extent, but commencing at its summit and progressing downwards."

He speaks of two cases in which the constriction had become so great that the os and cervix were quite hid from sight, the stricture being barely large enough to admit a probe.

All the cases he has met with were in women between the ages of 50 and 60, one only being under 50. In his diagnosis he eliminates the usual causes mentioned by Dr. Thomas as productive of atresia vaginæ, viz.: arrest of development; prolonged and difficult labor; chemical agents locally applied; mechanical agencies; sloughing, the result of impaired vitality; and syphilitic or other extensive ulcerations and regards it as some sort of atrophy connected with the decline of life and extinction of functional activity in the generative organs, and dependent upon lesions produced during delivery.

THE ACTION OF DIURETICS.—Dr. F. B. Nunnelly (*Med.-Chir. Transactions*) details his experiments with diuretics, and arrives at the following conclusions: Citrate and acetate of potash only slightly increase the quantity of water excreted by the kidneys, while they materially lessen the amount of urea and of solids excreted. Spiritus ætheris nitrosi slightly increases the amount of urinary water, and decidedly reduces the quantity of urea and solids. Oil of juniper slightly reduces the amount of water excreted, and appreciably increases the urea and solids.

A MECHANICAL ANÆSTHETIC.—The *Practitioner* for December contains an interesting article by the late Dr. A. Waller on the compression of the vagus nerve as a means of producing anæsthesia. It is claimed that by vagal pressure the patient can be speedily and safely brought into a state of complete insensibility, and that several surgical operations have been performed with entire absence of pain. It appears to produce a condition specially favorable to the reduction of dislocated bones. Attention was directed to this subject by Dr. Waller, shortly before his death, in the hope that it might be found of practical value in a large number of cases where ether or chloroform is now required. This may be only the revival of an old fashion, as the Assyrians are reported to have produced anæsthesia by compression of the cervical vessels during the performance of circumcision.

THE USE OF LOBELIA IN TETANUS.—Dr. George O. Butler, of Cleveland, Ohio (*Med. and Surg. Reporter*), reports three cases of tetanus successfully treated by lobelia inflata. From the use of this remedy in these cases the following conclusions may be drawn:—1st. Lobelia, as a powerful nauseant, will control the circulation. 2d. As a prostrating nauseant, it proves antispasmodic. 3d. Lobelia, as a powerful sudorific, eliminates whatever materies morbi is conceived to act as the exciting irritant in tetanus.

IPECACUANHA IN TYPHOID FEVER.—John Stephen, M.D., of Reading, Pa. (*Med. and Surg. Reporter*), employed this drug in two very severe cases of typhoid fever, with speedy recovery. His conclusions are as follows:—These two cases of fever, as far as two cases can go, show in a surprising manner the power which ipecacuanha in large doses possesses, when guarded by opiates, of not only checking the further increase of the fever poison, but also of completely neutralizing the effects of that which has already morbidly tainted the "fluid flesh" and deranged life's electric chords; bringing back through the medium of the blood and nervous system life's unbalanced forces to a healthy equilibrium; restoring to the brain its normal functions; checking the rapidity, while it gives tenacity to the heart's action; recalling the skin to its accustomed uses, and changing as if by magic the enteric complication; by restoring to the bowels, whether the morbid condition be one of diarrhœa or of constipation, their normal physiological action.

THE DISCRIMINATION BETWEEN SYPHILIS AND SCROFULA.—F. F. Maury, M.D., Surgeon to the Philadelphia Hospital (*Med. and Surg. Reporter*), in a lecture on "Infantile Syphilis," states that the parallelism between congenital syphilis and scrofula, when closely traced, so approximates that no human being can discriminate between them. He also believes that the unfolding of the next twenty-five years will establish the identity between so-called scrofula and inherited or quaternary syphilis, and this pathway leads him to the broad field of legalized prostitution, of which he is an advocate.

SIMPLE METHOD OF MEASURING THE SPECIFIC GRAVITY OF SMALL QUANTITIES OF URINE.—A writer in the *Boston Medical and Surgical Journal* has so often known the important fact of the specific gravity to be left out of a report on a specimen of urine for the want of enough to fill the urinometer, that the following simple rule is given:—Add to the quantity of urine to be examined as many equal volumes of water as may be necessary to float the scale of the urinometer. Multiply the excess of the specific gravity of the mixture above 1,000 by the whole number of volumes employed, add it to 1,000, and the result will be the specific gravity of the urine.

GELSEMINUM SEMPERVIRENS.—Dr. E. P. Hurd, Newburyport, Mass. (*Boston Medical and Surgical Journal*), has been in the habit for some time of using a tincture of the root of the yellow jessamine, and believes that as a cardiac sedative we have not its equal in the whole range of the materia medica. It relieves in a marked manner the shortness of breath and palpitations of all forms of heart-disease. He has seen more prompt and decided benefit from its use in chronic valvular disease than from digitalis. The dose may be three drops of the saturated tincture every two, three, or four hours. The gelseminum is combined with Hoffman's anodyne and tincture of lavender, and is believed to have a specific effect on the vaso-motor nerves, stimulating them, and thus equalizing the circulation and lessening the labor of the heart. It also allays the nervous irritability, is surer than veratrum or prussic acid, and safer than digitalis.

MUCUNA PRURIENS.—A pharmacist in Savannah, Ga. (*Boston Med. and Surg. Journal*), has ascertained that the terrible itching caused by the injudicious handling of mucuna pruriens (cowhage) can be at once relieved by the application of camphor liniment.

OBSTINATE HICCOUGH.—According to Dr. Juaritz (*Siglo Médico*), a physician being seized with a serious hiccough, while convalescing from gastric fever, drank in mistake an infusion of mustard, and obtained relief.

TORTICOLLIS.—In the advanced stages of this affection, Dr. J. Russell Reynolds, in his "System of Medicine," states that no mode nor combination of modes of treatment has availed to cure, or even to modify it. He has used all kinds of soothing applications, has employed electricity in every form, and failed to influence the disease when once it has become firmly fixed. When the malady has existed for a few months only,

he has found that the continuous current is useful, and at that period he has seen notable advantage from the continued application of morphia by the method of hypodermic injection. It is not essential that the morphia should be injected into the neck; it may be introduced into the arm or thigh, or any other convenient locality; but it is important that its use be steadily continued, and that the quantity injected be gradually increased until a definite effect is produced upon the spasm. Beginning with the tenth part of a grain, the quantity may be increased, if necessary, until two, or even three, grains are injected thrice daily; and when the patient can bear this amount the spasm has sometimes yielded.

Division of the nerves has been useless, and division of the sterno-mastoid worse than useless, for it has led to an exaggeration of the spasm in the deeper-seated muscles at the back of the neck, as Dr. R. had occasion to observe in a well-marked case that came under his notice some years ago.

HYDRATE OF CHLORAL.—Prof. Samuel G. Armor, M.D., of Long Island College Hospital (*Mich. Univ. Med. Journal*), arrives at the following conclusions as to the physiological and therapeutic action of this new drug. It cannot always be relied on as a substitute for many of the older and well-tried anodynes and nervines.

In a certain proportion of cases it produces unpleasant symptoms, such as gastric distress, difficult breathing, partial paralysis of the organs of deglutition, and a restless condition of the brain and nervous system. This is, however, largely exceptional to its general action.

These unpleasant symptoms are in many cases obviated by combining an opiate, in small sustaining doses, to the nervous system, with chloral—say the 1-12th of a grain of morphine, or 10 or 12 minims of McMunn's elixir of opium (he prefers to administer the opium separately). The action of the opium thus administered appears to be antagonistic to the sometimes depressing effects of the chloral.

Chloral should never be administered on a full stomach, neither on an empty one; intermediate periods are better. A good rule is to select a period when the stomach is empty, and have the patient take a small crust of bread or a cracker ten or twelve minutes before taking the chloral. Its action is somewhat transient. In two or two and a half hours the dose must be repeated if the first produces no effect, or if we desire to protract the action of the drug.

The protracted use of the drug is not advisable. It weakens the general vital forces, and tends to the production of anæmia.

A GOOD ANÆSTHETIC MIXTURE.—Dr. Henry F. Lyster, of Detroit (*Mich. Univ. Med. Journal*), advocates this anæsthetic mixture in private practice:

℞ Alcoholi..... ℥ ss;
Chloroformi..... ℥ j;
Æther. sulphurici..... ℥ ij.
Misce.

Before administering the above in surgical operations, he is in the habit of giving the patient a teaspoonful or two of brandy, thus corroborating the views of Dr. Warren Stone, of New Orleans, and others.

THE FORMATION OF UREA.—M. Grehaut (*Jour. de l'Anat. et de Phys.*) says that the ligation of the ureters and nephrotomy are identical in their results; they both suppress the eliminating functions of the kidneys, but present no obstacle to the formation of urea, which takes place remote from the sphere of their action.

IODIDE OF POTASSIUM AS A GALACTAGOGUE.—J. L. Van Zandt, M.D., Fort Worth, Texas (*Rich. and Louis. Med. Journal*), has accidentally found out that iodide of potassium increases the secretion of milk in nursing women, and has prescribed it in several instances since. This fact is corroborated by his friends, Drs. W. P. Burts, of Fort Worth; Patton, of Quitman; and D. P. Lipscomb, of Grape Vine Prairie, Texas. The result of treatment in these cases does not accord with the remarks of Scanzoni, who places pot. iodid. among the ischogalactics, and cites several authorities confirmatory. What the explanation of this discrepancy in results may be, he will not now attempt to say; but will only note the fact that most, if not all, of these cases had been sufferers from malarial disease, and that pot. iodid. has been found to be one of the best alteratives in chronic malarial poisoning.

RHINOPLASTY.—Dr. John E. Owens, Chicago, Ill. (*The Chicago Med. Journal*), in his "Day amongst the Surgeons of Philadelphia," says that Prof. Pancoast's rule in this operation is to make the new nose one-third thicker and longer than the normal size. He applies, at the proper time, a gutta-percha mould, with which, and a stuffing of cotton upon the inside of the new nose, he succeeds in giving this lump of flesh a shape. This mode of including the periosteum in the flap for the nose originated with Langenbeck.

Prof. Agnew, of Philadelphia, who has experimented considerably with periosteum, says that the new bone is deposited in nodules, and that even these do not always occur.

YOUNG MOTHERS.—At a meeting of the Obstetrical Society of Boston (*Boston Med. Surg Journal*), Dr. Curtis spoke of a girl at the Massachusetts General Hospital, who, two years ago, when only 13 years old, bore a child. She menstruated at twelve.

Dr. Abbot mentioned the case that occurred at the Monson Almshouse a few years ago,—the mother was 11 years old, and the father 16.

SCARLET FEVER.—During the twenty-one years from 1848 to 1868 inclusive, there were registered in England and Wales 415,982 deaths from scarlet fever and its allied disease diphtheria. It is estimated that at least 40,000 deaths have occurred in England last year.

HOUSTON, TEXAS, AS A RESIDENCE FOR CONSUMPTIVES.—Dr. James Cowling, of Houston, Texas (*New Orleans Med. Journal*), recommends this town as an excellent residence for those suffering from pulmonary complaints, from these facts: 1st. The temperature of the place is very mild; for the winter months of December, January, and February, the temperature is about 46° Fah. This includes the 24 hours round, giving to many days sufficient heat to be without fire. 2d. The breezes prevail from the south, coming from the Gulf, then blowing across the prairie, tempering them and making them very agreeable, pleasant, and healthy. 3d. Every facility exists for out-door exercise, either about down or in the sheltered woods around, or open prairie, and by railway and steamboat. 4th. There are well suppled markets, good hotels, and very agreeable society, with its advantages, although not so prominent as some already mentioned, nevertheless possessing in conjunction a beneficial influence on the patient.

Dr. Cowling, in conclusion, affirms that patients following out the above suggestions, aided by proper medical advice, may rely, in most cases, upon a great if not permanent relief.

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New York, January 16, 1871.

A CASE OF ALLEGED MALPRACTICE.

ANOTHER case of alleged malpractice (Haire *vs.* Reese) was tried and determined in one of the Philadelphia courts at the October session. The circumstances of this case, interesting and important to the profession in several points, are as follows: Dr. John J. Reese, Professor of Medical Jurisprudence in the University of Pennsylvania, was in February, 1869, summoned to the Colored House of Refuge to see a man who had fallen from a window upon the pavement, a distance of twenty-five feet. He was bleeding from a lacerated wound of the scalp, but chiefly complained of pain in the right hip. He was removed to his home, and at his request Dr. Reese took charge of the case. After etherization a thorough examination of the damaged limb was made, and no fracture or dislocation was discovered. The injury seemed a violent contusion about the right hip, and he was treated accordingly. Three weeks afterwards, at the request of the attending surgeon, Professor D. Hayes Agnew, of the University of Pennsylvania, saw the patient in consultation, and again a thorough examination by all the known methods was made. Dr. Agnew was of opinion that the original diagnosis was correct, and that there was no evidence either of luxation or fracture. Dr. Reese continued his visits during a period of fourteen weeks, and when he ceased attendance the patient was able to walk about on crutches easily, but could not put his right foot to the ground without having pain in the hip-joint of that side. For these services no compensation was given. In the month of August following, Dr. Reese received a note from a lawyer informing him that his grateful patient had commenced a suit against him for damages on account of having, by bad treatment of his case, caused a shortening of his limb. This legal gentleman, on learning the particulars of the case, became satisfied that there were no grounds of action, and abandoned the suit. A week afterwards a second attorney gave the doctor a similar notice of suit being brought; he subsequently became satisfied that his client had no cause of action, and retired. Six months passed, when a third lawyer was found who was willing to push the case to trial, and so notified the defendant. In the meantime, Dr. Agnew, who had seen the plaintiff but once, and that in consultation, was also sued for malpractice. Dr. Agnew's case was first called up, but was postponed at the plaintiff's request, and that against Dr. Reese was tried on the 17th and 18th of October last. The ground taken by the defence was, that though at that time, a period of more than eighteen months, there was undoubted shortening of the injured limb, it was neither the result of a dislocation nor fracture which had not been recognized by the attending surgeon during treatment, but was due to an *interstitial absorption of the neck of the thigh-bone*, consequent to the severe contusion of the hip—the man had first struck the railings in his fall, before coming to the ground—that it was not present during the period of Dr. Reese's attendance, and did not show itself until several months after the injury. This plea was supported unreservedly by the testimony of Drs. S. D. Gross, Agnew, Brinton, Lewis, and Packard, all eminent surgeons of large experience; and they moreover testified that the treatment was skilful and proper. None of the surgical witnesses called by the plaintiff would say that *the shortening was the result of a previous fracture of the neck of the thigh bone.* One of the witnesses for the plaintiff, a Moses Stevenson, who had graduated in 1870, after studying medicine two years, said in the course of his cross-examination, among other bright things, that "the head of the femur may be crepitated by absorption." The judge well remarked, in his charge, of this witness's testimony, that "in his opinion it was not worth considering, and was in the highest degree discreditable to him." The other professional witnesses for the prosecution—Dr. John Hirst, a graduate of the College of Surgeons of Edinburgh, Dr. Joseph D. Scoles, and Dr. Duffee—would not say there had been a fracture, and the latter indeed was distinctly of opinion that it was a case of absorption of the thigh-bone. We may remark that Mr. James Paget published a lecture in the *British Medical Journal*, Feb. 19, 1870, on shortening of the leg as the result of direct injury to the hip, and in the *Edinburgh Medical Journal*, vol. xlvi., 1836, Mr. Gulliver has mentioned several instances of like results from contusion of the hip-joint.

The charge of Judge Thayer was an admirable one It reviewed the whole ground of action, and clearly interpreted to the jury the scientific questions at issue, and the technical testimony. He pointed out the rules of law applicable to the case in question, and plainly laid down the principle that an action for malpractice can only be sustained by positive proof of want of ordinary skill and attention on the part of the medical attendant, and that the burthen of proving it lies upon the person who alleges it. He said:

"The implied contract of a surgeon or a physician who attends a patient is, not that he will entirely effect a cure, but that he will use all known and reasonable means to accomplish that object, and that he will attend his patient carefully and diligently. His relation to his patient implies that he possesses, and will employ in the treatment of the case, such reasonable skill and diligence as are ordinarily exercised in his profession by thoroughly educated surgeons or physicians . . . and reasonable skill and diligence, means such skill and diligence as educated and faithful surgeons or physicians ordinarily employ.

"No presumption of the absence of proper skill and attention arises from the mere fact that the patient does not recover, or that a complete cure is not effected. God forbid that the law should apply any rule so rigorous and unjust as that to the relations and responsibilities arising out of this noble and humane profession. . . . On the part of the patient, it is his duty to conform to the necessary prescriptions and treatment, if they be such as a surgeon or physician of ordinary skill and care would adopt or sanction; and if he will not, or, under the pressure of pain, cannot, the surgeon or physician is not responsible for injury resulting therefrom."

These are reiterations of well-settled points of law, but they are well and honestly put.

The jury, without leaving the box, returned a verdict for the defendant, and assessed the costs upon the plaintiff.

It was but lately that we called our readers' attention to a case of alleged malpractice happening in this city, in which Dr. Lewis A. Sayre was the defendant, and which ended, too, in the discomfiture of the plaintiff, the real wrong-doer. Had these cases gone against the intended victims--for the law's uncertainty is only exceeded by the capriciousness and eccentricities of juries—neither the personal nor professional reputation of Dr. Reese or Dr. Sayre would have suffered, for both were too well-known in their respective communities to have been damaged by trumped-up charges affecting their character or their skill. Many a physician, satisfied in his conscience that he had done the best within his abilities for his patient, would, under like circumstances, have shrunk from what might be looked upon as an unequal contest, and been unwilling to face the annoyances and publicity which a trial necessarily entails, and bought off the plaintiff. Dr. Reese expressly says he might have avoided the trial "by listening to the base proposals of the plaintiff's counsel to pay black-mail." (The *Medical Times*, Dec. 1, 1870, p. 74.) We believe that Dr. Sayre could at any time have settled his case for an insignificant sum of money. Fortunately for the profession the gentlemen in these instances knew their duty to their brethren, and were willing at personal sacrifice and risk to do it regardless of consequences. Dr. Reese states that he "regarded it as a matter of principle, as a duty he owed to the profession, to meet this law-suit." The results of the Philadelphia and New York trials will no doubt do much towards putting an end to what Judge Thayer has happily called, "experiments, by unjustifiable law-suits, against skilful, attentive, and humane physicians." If this happens, the medical men of this country ought to bear in mind to whom they are chiefly indebted for such a result, and should recognize in some fit way the obligation they lie under to Drs. Reese and Sayre for their unselfish and courageous vindication of the honor of our profession.

The Medical Society of the State of New York will hold its next annual session in Albany, on the first Tuesday in February. It is to be expected that the attendance will be as full as usual, and that those who may be present may be repaid in the discussion of interesting subjects. There will be, as a matter of course, some long papers, lengthy remarks, and tedious speakers; but the listeners have learned to be courteous and considerate, and it seems to be sufficient if these authors occasionally ask the Society to *bear* with them. What can any company of polite gentlemen do when a person chooses to inflict upon them an uninteresting subject, and ingeniously insinuates every little while that he is ready to cease when he becomes a bore? Does not the very necessity for making such a remark at all, prove that the one who makes it has no conscience? If the sessions were long enough it might be very edifying to take up the history of any subject from the time of Hippocrates, or to rehash the well-known opinions of our standard authors; but the truth is, the members cannot be expected to come together to hear one individual, however learned he may be. The best test of a good paper is the discussion which it calls forth. If the original points are well and tersely taken, and the subject is at all interesting, the paper can always be made a good one; and *per contra*, a good subject can be irretrievably damaged by spinning it out to an unnecessary length. Let us hope that the majority of the papers to be presented may be short, practical, and well written.

There will be little if any unfinished business to start upon. The subject of State Registration is one of vital importance, and should be pushed. Since the last meeting much has been done in the way of starting the thing on a proper basis; it now remains for such as are interested in its success to secure a proper working of its details.

Another matter which we think it will be for the interest of the Society to discuss, is the propriety of repealing the By-law denying authors the right to publish their papers in medical journals before they have appeared in the Transactions. The volume of the Transactions does not generally make its appearance till eleven or twelve months after the meeting, and the author is compelled to wait that time before he can be heard. If his article contains any original ideas they must slumber a year before they can be presented to his professional brethren, and the chances are that what might have been new at the time the paper was read, becomes very old by the time the paper is printed. Again, all this time is lost to the profession for proving by experiment the truth or untruth of the assertions

therein contained. The number of copies of the Transactions to be published each year depends upon the Legislature, and may be large or small; and in any event but a small proportion finds its way into the hands of the profession proper, the larger number being used for campaigning purposes. Published at the expense of the State, and gratuitously distributed, its circulation as a volume cannot be damaged by containing reprints. If it were issued at the expense of the Society it would be a different matter, and its sale might be much damaged by publishing second-hand material. But the Society, while really having nothing to say as to the number of copies to be printed, and the time of their appearance, on the one hand, and not being compelled to pass the By-law on the other hand, is voluntarily doing itself great damage, in constraining ambitious authors to seek other and readier channels for their productions. We predict that the enforcement of this By-law will hereafter rob the archives of many a valuable paper. The By-law is on its face as unreasonable as it is unaccountable,—and it is the bounden duty of the Society to repeal it at once.

We are glad to see that the medical men from this city are showing more and more interest in the workings of the Society, and that each year the number in attendance increases. We hope that this will be particularly the case the coming session. New York is to furnish the President for the ensuing year—and there should be interest enough among the profession here in the choice to secure more than the usual quota of registered names.

Reviews and Notices of Books.

PATHOLOGY AND TREATMENT OF VENEREAL DISEASES, including the Results of Recent Investigations upon the Subject. By FREEMAN J. BUMSTEAD, M.D., Professor of Venereal Diseases at the College of Physicians and Surgeons, New York; Surgeon to Charity Hospital, etc. Third edition, revised and enlarged, with illustrations. Philadelphia: Henry C. Lea. 1870.

PROFESSOR BUMSTEAD'S masterly treatise on venereal is so widely known, both in this country and abroad, that it is only necessary, in calling attention to the third edition, to refer to the improvements that have been effected by revision. We have purposely delayed our notice of the present volume, in order that by comparison with former editions we might speak with confidence of the revision and enlargement. Those who already possess a standard work like that of Professor Bumstead, very naturally hesitate about the purchase of a later edition, unless assured that the improvements are such as will justify them in discarding an old book for a new one. In this instance we are convinced that the author has devoted no small amount of conscientious labor to the task of revision. He has submitted the whole work to a careful scrutiny, and many parts of it have been entirely re-written, such, for instance, as the chapters on the treatment of stricture and those relating to chancroid and syphilis. Recent investigations have given prominence to the subject of viscera syphilis, which accordingly receives all the attention that it demands. Syphilitic ophthalmia, which formed a conspicuous feature of the former editions, has also been written up to the latest period of ophthalmic knowledge; and in this department the author has been assisted by Dr. E. H. Loring. Some portions of the earlier editions, relating to questions now no longer subjects of doubt or controversy, have been omitted, and other portions have been considerably cut down and modified to admit matter of greater importance. The consequence is, that the sixty-four pages by which the volume is increased form no measure of the actual additions. The object has been throughout to supply a practical treatise on venereal diseases, adapted alike to the wants of the student and the practitioner. It was the intention to enrich the work by a series of plates and colored illustrations, but the author believes that want now fully supplied by the re-publication of Cullerier's Atlas.

We have not space to mention in detail all the improvements we observe on a perusal of the work; but we have no hesitation in pronouncing the present volume to be the best practical treatise on venereal diseases in the English language.

AN INTRODUCTION TO THE OSTEOLOGY OF THE MAMMALIA —Being the Substance of a Course of Lectures delivered at the Royal College of Surgeons of England, in 1870. By WILLIAM HENRY FLOWER, F.R.C.S., Hunterian Professor of Anatomy and Physiology, &c. With numerous illustrations. London: Macmillan & Co. 1870.

THE profession is already somhat acquainted with the able and instructive course of lectures which forms the basis of this volume; but the author has so enlarged and remodelled them as to render his work a convenient hand-book for the student of osteology. Few subjects are more difficult than that of osteology to render particularly attractive; but when men of unusual ability and attainments devote themselves to the task, even dry bones are made to a some new and interesting features. The study of osteology is naturally the foundation of all knowledge of anatomy, human and comparative; and the student of the animal kingdom cannot be too grateful for such aid to systematic investigation as that afforded by Prof Flower's lectures. Taking the human skeleton as a point of departure, the author passes easily and clearly to the consideration of those of the lower mammalia in their various modifications.

Of the twenty chapters which compose the volume before us, we find one devoted to the classification of the mammalia. The author admits at the outset that in the present imperfect condition of our knowledge a perfect classification is impossible, and he therefore regards the one adopted as merely provisional. It agrees in the main with that of Prof. Huxley, and includes three principal groups, viz.: Monodelphia, composing the great bulk of the class; Didelphia, and Ornithodelphia. One chapter is given to the general consideration of the skeleton, and four to that of the vertebra. Five chapters are devoted to the skull and the peculiar details of its construction in the various animals. The remaining chapters take up elaborately the sternum and ribs, the pelvic and shoulder-girdles, and the bones of the extremities, with their anatomical configuration and correspondence.

Having steadily in view a purely anatomical description of the bones, the author avoids all physiological considerations, though there must have been a strong temptation at times to enlarge upon the uses and adaptations of the structures so minutely described and so thoughtfully compared. The result of the plan

adhered to, however, has been to furnish within very moderate dimensions a most comprehensive work on osteology, and one which occupies a place by itself. It contains one hundred and twenty-six illustrations, nearly all original, which render material assistance in following the descriptions. Taken altogether, we regard the volume as a valuable addition to our literature, and a model throughout of conciseness and perspicuity. We advise all medical students, and those interested in any department of anatomy, to render themselves familiar with Professor Flower's method of studying osteology.

Reports of Societies.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

STATED MEETING, DECEMBER 5, 1870.

DR. ABRAM JACOBI, PRESIDENT, in the Chair.

THE PRESIDENT announced the admission to membership of Drs. Henry R. Derby, Jesse L. Morrill, J. Fitzgerald O'Connor, Samuel Sexton, and Alfred L. Carroll.

The report of the Committee on Intelligence was read by Dr. Castle. We present extracts from it under the head of *Progress of Medical Science.*

DR. BARKER read a paper on Bloodletting in Obstetric Practice (vid. page 510).

DR. PEASLEE was called upon by the President, and remarked:

In advance I will say that I do not agree with Dr. Peaslee, as quoted in the paper, any more than does Dr. Barker. But if the remainder of the paragraph had been quoted, to the effect that he had himself seen patients bled where he thought that it had prevented inflammation or other ill consequences, but that this practice should be confined to plethoric patients, and never resorted to in the anæmic, then I should be ready to endorse it fully. The opinion was expressed seventeen years ago, and I have seen no occasion to change it since. With regard to that point, I inquire of the patient, if she be evidently pretty full of blood, whether in previous deliveries she has had any great hæmorrhage, or any accident afterwards. If she has had little hæmorrhage in delivery, and has suffered from any subsequent inflammation, I allow her to bleed at least a pint, and if a quart, no matter. But with an anæmic patient, I should endeavor to preserve all the blood she has in the body, uterus and all, if I could; and should give a dose of ergot ten or fifteen minutes before the expected delivery, to act immediately after it, and save all the blood possible. I frequently hear physicians say it is their invariable rule to give ergot in that way; but I should not give it thus invariably—not to a plethoric patient, but should let her bleed as much as necessary, and then, if requisite, stop the bleeding by ergot, the hand in the uterus, etc. The pregnant uterus, weighing from two and a half to four pounds, should contain in its vessels probably more than a pint of blood. If the woman is plethoric and has in every part of the body, probably, more than the normal amount of blood, I can see no reason for retaining this extra quantity. It has been said, that the character of a person has sometimes been entirely changed in consequence of the amputation of an extremity—that a man before indifferent and sluggish would afterwards become quite energetic; the three-fourths of a man would be more efficient than the whole man had been before. This is doubtless owing to the fact that it has been regarded as a great merit in surgical operations to lose little or no blood. The limb is drained before cutting, and the surgeon prides himself on his dry amputation, in which not a tablespoonful, or a teaspoonful, of blood has escaped. I consider this the reverse of a merit in the case of a plethoric patient. If such a patient loses an upper extremity, for instance, that is entitled to something more than one pound of blood; and he should lose that amount with the limb, to leave the circulation in its normal condition. I think that the same principle applies in obstetrics, and that it is a matter of judgment in each particular case whether you shall let the woman lose a pint or more of blood, or as little as possible. I had lately occasion to deliver a woman extremely anæmic, in whose case I feared the loss of even four ounces. She lost no more than that, I think, and to that I attribute the favorable result.

With regard to venesection in eclampsia, I think there should not be a single doubt as to its immense value. I have seen, in the twenty-nine years I have been in practice, all his change of opinion on the subject of bloodletting; have seen the pendulum swing from one extreme to the other. But we are all of us taking blood in our daily practice, and cannot get along without it. If we apply a single leech we take blood; if a dozen, we take more; in venesection we take it more rapidly and with more certainty as to its amount—there is no other essential difference. Where there is extreme congestion of the vessels of the head and face, lividity of the lips, dyspnœa, sparks before the eyes, noises in the ears—where we find these signs, and the patient is getting worse, and there is nothing to contraindicate bloodletting, I should feel that I could not conscientiously withhold it. I am glad that this subject has been brought up by Dr. Barker, for it is of the greatest importance that we come to sound ideas upon it. It is said a man's opinions on bleeding are apt to be determined by the amount of blood he carries himself—if of full habit, he will use his lancet boldly; if spare and pale, he may never unsheathe it. By this criterion, I ought, perhaps, to be totally opposed to bloodletting; but I must stand as the exception to the rule, and advocate its judicious employment.

DR. ISAAC E. TAYLOR was the more pleased to hear the views expressed in the paper, because he had supposed that Dr. Barker had adopted *in toto* the ideas of Cazeaux, that the condition in pregnancy is one of anæmia. Cazeaux himself had swung completely from one side to the other, telling us that he had at first come to accept the view of the chlorotic or hydræmic condition in pregnancy wholly from the analyses of the blood conducted by MM. Andral and Gavarret, though later, in practising upon this theory, he had found clinical confirmation of it. The important practical question would seem to be how to determine, in a case of puerperal convulsions, for example, between the condition of active congestion and that of hydræmia. Are the symptoms of compression of the brain due to plethora or to serous effusion? It is not always easy to decide; and we hesitate whether to resort to chloroform, tartar emetic, and venesection, or to quite an opposite course. Though by no means an advocate of frequent bleeding, yet the speaker thought that, if these two conditions could only be clearly distinguished, there would be no treatment of greater value in the cases indicating it. He wished that Dr. Barker had given the diagnostic marks more fully.

DR. BARKER, being called upon to reply, said: If I understand the question rightly, it has reference to the methods of diagnosis between active sanguineous

plethora and the serous plethora which occurs in anæmia. I agree with Dr. Taylor, that this is one of the most difficult points in practical medicine, and often can be settled only by the nicest discrimination. Yet with reference to the practical therapeutic measure of bloodletting I have considered the decision comparatively easy. The view I have advocated in the paper is, that in a certain class of cases of anæmia, or hydræmia, the deficiency of red corpuscles may be accompanied with excess in the quantity of blood, such as to produce local congestion--whether of the kidney, most important of all; of the uterus, jeopardizing the continuance of pregnancy, if not the life of the mother; or of the brain, which often occurs as a result of puerperal convulsions. In these exceptional cases of local congestions occurring in the anæmic, bloodletting may be necessary, though during gestation the amount of blood taken must be small, and limited strictly to the relief of the local congestion, the general condition of the patient being met at the same time by the most nutritious meat diet, and by ferruginous tonics. Bleeding in the convulsions of parturition comes under a different category. There we bleed only to prevent lesion of the brain in consequence of the convulsion—to prevent apoplexy. The apoplexy, when it occurs, is not the cause of the convulsion, but its consequence, by a mechanism which a glance at the conditions involved will readily explain. The laryngeal spasm and the tonic contraction of all the muscles of respiration stop the aëration of the blood, and interfere with its passage through the lungs, producing a great accumulation in the right cavities of the heart. The contraction of the abdominal muscles forces the blood out of the great vessels of the abdomen, and aggravates this condition; while the return current from the brain is still further interfered with by the pressure of the sterno-mastoids and the platysma upon the veins of the neck. It is not strange that, under these conditions, either the delicate vessels of the brain should give way, or serous transudation through their walls take place; and to prevent this it may become imperative to diminish the volume of blood, even in an anæmic patient. In convulsions after labor where much blood has been lost—in a case of placenta prævia, for example—no sensible man would think of venesection. Here the convulsion is due to the hæmorrhage, to loss of muscular and nervous power, and our grand effort must be to restore the exhausted nerve-force. Opium is the great remedy here, and even alcoholic stimulants may be required.

Dr. F. D. Lente had been much gratified at hearing the paper, and thought it time the question of bloodletting should be reopened. It would be strange, indeed, if the eminent men of the last generation, whom Dr. Barker had named, and a host of others almost as eminent, had no ground whatever for their reliance upon a measure which they regarded as their great remedy. These men were, perhaps, even closer observers than are we at this day; for the multiplication of the instruments for physical diagnosis would seem rather to have blunted our observing faculties. In an obstetric practice of twenty years, the speaker had seen many cases benefited by bloodletting. There were some instances where this measure seemed to force itself upon the physician, though he might be unable to assign the definite reasons for it. He was speaking especially of cases of threatened uræmic convulsions, which probably constituted nine-tenths of those in which the question arises.

But he had seen many more patients benefited by other remedies than by bleeding; and to discuss the question properly, we should consider the effect of bloodletting, not by itself, but in comparison with that of the other powerful measures now at our command. Doubtless the disuse of venesection could be ascribed in no small degree to the introduction of other means having a similar immediate effect, without the remote ill consequences of the spoliative treatment. Veratrum viride, though scarcely to be employed in pregnancy, was little inferior to bloodletting in the certainty with which it reduces pulse and temperature. Specially applicable to the pregnant and parturient conditions were the inhalation of chloroform and the hypodermic injection of morphia. The speaker had seen patients saved by these means in cases where, in former times, bloodletting would have been the only remedy, and the physician would have been accounted a murderer if he had failed to employ it. He had seen cases where convulsions went on for a week, kept in check only by the administration, during the whole period, of morphia hypodermically, and of chloroform. He had never regretted the use of these agents in any instance, and, on the whole, he should rely upon them in preference to bloodletting. It was objected that opium was dangerous in uræmia, and, especially in children, where there was inflammation of the brain or its meninges. In cases of infantile convulsions, where everything else had been tried in vain, he had given it freely, and, he was confident, had saved the lives of the children.

Dr. James L. Brown.—I shall venture to speak merely because I think I represent a class of physicians whose experience has fallen within the period, of the last fifteen years or so, in which bloodletting has hardly been practised at all. During that time I have never seen venesection done, and I think I am not alone in this experience. Now it is a very interesting point to me to know whether this change in practice is due merely to a fluctuation in fashion, or is based upon sound reason. The question is asked, Can it be that all those eminent men, who used to bleed so freely, were mistaken? I think Dr. Barker has himself answered this question in giving the long list of ailments in which those old authorities all agreed to bleed—ailments of the most diverse and even opposite character, in many of which we now know beyond a doubt that bleeding is injurious. You could not now find a man to endorse that list.

There were three conditions particularly mentioned by Dr. Barker as furnishing indications for bloodletting—congestion of the uterus, congestion of the kidney, and congestion of the brain. I have seen a good many cases of midwifery, but I have never seen one where I could diagnosticate congestion of the uterus during pregnancy. As to congestion of the kidneys, it is so closely allied to cerebral congestion in the production of convulsions, that I think the two can hardly be separated. What we young men want is to know precisely the indications which call for venesection. It has been said that they are very difficult to define. I think they must be. There is want of precision in the very terms used to express these indications. Puerperal convulsions, for example, constitute no definite index of the patient's condition. In one woman they may be due to chronic Bright's disease, which has been simply aggravated by pregnancy. In such a case no man would think of bloodletting, for no amount of it could relieve the uræmia, as it could not remove the renal lesion. It is a question whether or not venesection is of service in the capillary congestion of the kidney, to which it is generally believed that convulsions may often be attributed. And as to cerebral congestion, it is well known that there are those who deny that bleeding can affect it. "No amount of bloodletting,"

says Bennett, "can diminish the amount of fluids in the cranium," which practically amounts to the same thing.

If we leave the older men and try to settle this question by the clinical practice of the writers of our own day, we find little in the way of definite directions for the employment of venesection. Trousseau very positively forbids it in all such cases as have been referred to here; he thinks it can only hasten the patient's demise. So, too, with many other writers. It becomes pretty difficult, therefore, for us, who are not familiar with this treatment, to find any clear rules for its application. We certainly cannot be expected to employ it in the absence of such definite indications, for the removal of blood must always be regarded, I think, as a serious evil, only to be tolerated when necessary for the removal of a still greater one. As to the so-called condition of plethora, I doubt if there is such a thing. I have never yet seen a man whom I thought to have too much blood in his veins. Dr. Chambers, in his *Renewal of Life*, says that he not only does not himself believe in the existence of the plethoric condition, but he does not know any intelligent physician who does believe it. If it be true that nature sometimes makes more blood than is good for a person, I should like to know how to recognize the fact.

I have not assumed that I could throw any light on this subject, but I have ventured to ask these questions, because I think there are many who, like myself, prefer specific details to generalizations. I do not think that the profession has dropped bloodletting without good reason. It is noteworthy that it has not simply modified its practice in this respect, as it has modified its heroic dosing since homœopathy taught it that many diseases would get well without medicine; but it has abandoned bloodletting almost entirely. It appears to be a simple assumption, unsupported by sufficient reasons, to say that in this abandonment the pendulum has swung too far to one side.

Dr. Hubbard had bled in every case of puerperal convulsions that had come under his hands. He had seen its good effects in convulsions, both ante- and post-partum, and he should use it in both. He related a case of a stout primipara, whom he saw for the first time when called to deliver her. He found her sitting up, with face flushed and pulse full and bounding. These symptoms showed plethora, and he at once proposed to bleed her; but the woman stoutly refused. She soon went to bed, and the labor progressed favorably for a time; but his fears were verified when, as the head was pressing on the perinæum, she went into a convulsion. Then he practised free bleeding, followed by a dose of calomel and Dover's powder; delivered with forceps; and she did well. In another case of a delicate, and by no means plethoric, primipara, twenty-two or three years old, the labor had favorably terminated, although the amount of hæmorrhage was pretty large for so delicate a subject. Convulsions came on sixteen hours after delivery. He bled her a pint, and put her slightly under chloroform, when the convulsions yielded for a while, but came on again. Then he gave calomel and Dover's powder, with infusion of digitalis (a suggestion of the late Dr. Batchelder); kept up the chloroform; and in the morning, when the calomel had moved the bowels, the trouble was over. He thought a great deal of moving the bowels. In this case, although the convulsion occurred so long after labor, the patient had no recollection of his having attended her; and this lapse of memory was characteristic of all the cases he had seen. He was not one of those who had ceased to bleed in these cases, in obedience to the dictates of homœopathy or anything else.

Dr. Prince was one of the favored few who had seen both extremes of practice. As hospital-walker he had had to carry his lancet, and be ready to use it in the lying-in, as well as in the general, wards. He had certainly seen benefit from it in many cases, and he was prepared to endorse to the full everything Dr. Barker had said. In convulsions he had seen morphine fail to produce the slightest relaxation of their violence, and even chloroform, though often giving happy results, could not be depended upon in every case. In his own experience bloodletting had proved more efficacious than any other treatment. It was essential to use great care in the selection of cases for its employment, and closely to watch the effect produced during the flow. If the patient showed returning consciousness and general improvement, that was a sign that your remedy was doing good.

Dr. Austin Flint, Senr.—I came here to-night thinking that, as the topic related to midwifery, and it was well known that I was not specially devoted to that branch, I might have the privilege of remaining a silent listener; but I have no right to refuse the President's call. The paper of my friend, Dr. Barker, seems to me significant not only of the change in the views of treatment of diseases connected with pregnancy, of which I, perhaps, cannot well judge, but of the change of view with regard to the treatment of diseases unrelated thereto. I can go back, as other speakers have done to the time when bloodletting was very freely and, very indiscriminately employed; when it would have been considered malpractice to allow any acute inflammation, and many even of the chronic inflammations, to go wtihout more or less abstraction of blood. At that time to bleed in inflammation was a received maxim. I recollect even hearing it said, "When you are in doubt whether to bleed or not, use the lance; give the patient the benefit of the doubt"! We can see now that this mode of employing booldletting was frequently injurious, often, indeed, exceedingly so. There comes to my mind, at this moment, a case of puerperal fever in which, after consultation with two much older men, I practised venesection only a very short time before death. Under the circumstances where it was then employed, this measure would now be considered almost murderous.

The question that has been raised to-night is certainly pertinent, whether the great change that has occurred since that time is merely the oscillation of the pendulum to the other extreme, or is a real advance, not to be followed by reaction. I think it is easy to see the processes by which this change has been wrought. The effect of bloodletting on the circulation and on the constitution of the blood was studied by Gouch, Marshall Hall, and others; and it was proved that the abstraction of blood aggravates some of the very conditions which were regarded as indications for its employment. The more thorough study of the blood in certain morbid conditions gave us the key to their pathology. Before this, anæmia, for instance, was not known to consist in a diminution of the red corpuscles. Above all, the profession came to see more and more the importance of knowing the natural history of diseases—their progress uninfluenced by any active medication; and, as this study was prosecuted, it was found that diseases, which it was supposed would, left untreated, almost certainly prove fatal, in reality tended intrinsically to a favorable termination. I am not disposed to give the homœopathists the credit of this. We are indebted for it to the conscientious study of the men in our own profession.

I found myself, in the early part of my professional life, an opponent of bloodletting. One of my youth-

ful essays was directed against it. I have found myself, for the last few years, an advocate of bloodletting to a certain extent; and have ventured the prediction that not many years will elapse before we shall again find the profession practising it, though in a very different way from our predecessors. I feel surer of nothing than of this. The lancet is again to find its place in our armamentarium; and it becomes a question of the greatest import, as we resume its use, What are the indications for it, what its contra-indications? This opens up a great subject, to which, of course, I can do no justice to-night. But I think this is a sound principle applicable to this case as well as to others: The opinions of those who have preceded us, where they have been generally held, and for a long time, we have a right to assume cannot be altogether without some basis of truth. Therefore, although every one, who has had the opportunity of observing both past and present practice, cannot fail to admit that much harm was done by indiscriminate and excessive bleeding heretofore, still it would be very unphilosophical to put aside all the former experience as worthless. So, too, with regard to other remedies, mercury for instance; and I venture to predict that before many years we shall find mercury again held more highly in esteem.

The indications and contra-indications for bloodletting I cannot attempt to discuss in these desultory remarks. One of the great advantages which it has over other measures, by which similar or the same effects may be accomplished, is its promptness of action. We can produce certain effects on the pulse, etc., in a few moments with veratrum viride, and with other remedies—effects very similar to those of venesection, except that some time must elapse before their appearance. But there are cases—cases of uræmic coma, for example—in which moments are very precious; and it is these cases which will lead to venesection again becoming an effective measure in our practice. What will it do? The practitioners of twenty years ago believed, with great confidence, that the abstraction of blood would sometimes arrest inflammation. I believe that it will sometimes arrest it. I believe that, in the last two years, I have seen two cases of pneumonia arrested by bleeding. They were cases in Bellevue Hospital; and the diagnosis was based upon physical signs, and was not to be questioned. Doubtless the value of this method of antiphlogistic treatment was formerly over-estimated; but I think it has great value, and that we may employ it in acute inflammation if there are no contra-indications. Those practitioners believed that, if it did not arrest inflammation, it would shorten the period of its duration. I believe it will do this; and I think it a matter of therapeutic importance of which we may avail ourselves except where there are contra-indications, where there is a tendency to exhaustion. In my lectures upon pneumonia, last winter, I opened the subject of treatment by reciting a case from my own practice, which I reported thirty years ago. This case was treated by bloodletting, a moderate amount of mercury, and some tartarized antimony. The duration of the disease was eight days, I believe. I cited it as a good example of successful treatment thirty years ago.

I spoke of one contra-indication, the tendency of a disease to destroy life by asthenia. Bloodletting could only increase this tendency. But where a disease is likely to prove fatal by apnœa, the case is very different. I happen to be now lecturing upon acute laryngitis. Here is a disease which is very apt to destroy life if surgical interference is not resorted to—which may destroy it in a few hours. The danger is not at all from exhaustion; it is from apnœa, and it becomes important to bring to bear every measure which gives any hope of relief. I advocated to my class, as strongly as I could, prompt, energetic bloodletting. So, *mutatis mutandis*, with apoplexy and insolation. There are some chest diseases where, by diminishing the quantity of blood, we diminish the amount of labor inflamed parts have to perform. I may mention that twice in my life I have myself experienced the immediate and delightful relief afforded by bloodletting in an inflammatory affection of the smaller bronchial tubes. This relief was so prompt and so marked, after other measures had been tried for a day or so without avail, that I can never forget it.

It was a striking incident that Dr. Barker could not obtain a lancet at the instrument-maker's. Striking, too, was the remark by one of the gentlemen who preceded me, that he had never, in fifteen years' experience, seen a venesection. It is not long ago that there was admitted to my service in Bellevue Hospital a case of insolation in which it seemed to me that bloodletting was appropriate. The house-physician was asked to bleed the patient, and replied that he would do so with pleasure, but he had never seen the thing done, and did not know exactly how to go to work; and I soon saw that he did not. Those of us who practised in the bloodletting times used to deem it a very essential accomplishment to be able to bleed well; to apply the ligature with just the requisite tightness; to get the stream of the right size, and in the right direction; by no means to allow it to spurt in the physician's face or over the bed. After what we have heard to-night, I am almost tempted, though I fear it might be hardly decorous, to call on those gentlemen who have lancets in their pockets to show them.

The President was requested to give his views, and remarked:

We have learned to our satisfaction that it would be a great mistake to abstain from venesection as an invariable rule, just as it would be a great mistake to resort to it too frequently. I do not know whether it has been the habit of many physicians not to have recourse to it at all; I know that I very seldom perform it, but now and then deem it indispensable—sometimes once in two, three, four years, sometimes twice or three times in half a year. I will briefly state the indications I have followed. Not a single disease has been named here to-night, or a single class of diseases, in which venesection should be resorted to, with the exception of one class of inflammations mentioned by Dr. Flint. That by venesection inflammation can be prevented or cut short in the first stage, I believe is true; because it acts to remove one of the requisites for inflammation, that is, dilatation of the blood-vessels, local congestion. Inflammation as such, that is, the new formation of cells, and of fibres out of the cells, will not be influenced by venesection; but the local hyperæmia will be so influenced, simply because it relieves the blood-vessel pressure; and so I imagine that local inflammation may be benefited by bloodletting.

This mechanical action in relieving the blood-pressure, makes it of inestimable use in meeting another class of symptoms (not of diseases). For instance, I am quite positive that many a case of pulmonary œdema will die without prompt venesection. I have seen such cases; and have performed venesection myself where I was certain that the patient would have been dead in fifteen minutes but for that. But pulmonary œdema is not a disease; it is a symptom

which may appear in the course of a number of diseases. We see it after fevers, scarlet fever and others. We see it in the same degree, and presenting the same danger, in acute pneumonia. There it takes place from the rush of blood to the lungs in overwhelming quantity; its stagnation from the obstacle to its passage through them; and effusion as a consequence. Pulmonary œdema, then, is only a symptom, which may be developed in fever, pneumonia, etc. We treat this symptom by venesection, simply to relieve the blood-vessel pressure, prevent further serous effusion, and allow absorption of that which has taken place. We do not treat the disease itself by venesection; indeed, when we find pulmonary œdema coming on, we do not stop to diagnosticate the disease which has caused it; we have no time for that. We only know that the patient is suffocating from the filling up of the air-vesicles and bronchial tubes, and that if anything will relieve this, it is venesection; so we open a vein at once, and consider the diagnosis afterwards.

The same holds true of œdema of the brain. No matter whether this is the result of local disease, as, for example, apoplexy with consecutive inflammation, or of an essential fever, we shall in all probability, as soon as we are satisfied there is œdema, first draw blood and relieve the patient, then look for the diagnosis.

The indication in all these cases is a vital one. We cannot ask ourselves what will become of the patient next week? How pale will she look? How long require for convalescence? We can only ask, Will this patient live for half an hour if I do not resort to venesection? The symptomatic indication is thus fulfilled, and in most cases we shall afterwards have time to decide what shall be done to relieve not only the previous general anæmia, but also the added trouble brought on by our enforced interference. So in all the cases mentioned by Dr. Barker, I believe we are to resort to venesection simply to save the life of the patient.

I would attempt to answer one question which has been put to-night: What is the difference between that œdema of the brain which we see in cases of fever, pneumonia, etc., and that œdema which we see in the cases that have been called, by Marshall Hall and others, cases of hydrencephaloid disease? I think the difference a vital one with reference to treatment; therefore it is important to make the diagnosis. In hydrencephaloid disease we have more or less chronic exhaustion. We seldom see a case except there has been some exhausting disease at work, for one day, one week, six weeks. Under this the brain gets emaciated just as do fat and muscle. It is no longer large enough to fill the intra-cranial space, and effusion must take place. We have effusion into the brain-substance, and into the arachnoid sac, so-called, or, as I prefer to say, arachnoid tissue. We learn, then, from the history of the case, that there has been chronic pneumonia, intestinal catarrh, or longer continued chronic diarrhœa, etc., and in such a case we ought not to resort to bloodletting. But where we have to deal with acute œdema, we have no such history of exhausting disease. We find simply an acute disease, as a fever, which we may perhaps diagnosticate at the moment, or may not. When we see dilated pupils, flushed face, delirium, we are not to consider, Has this poor woman been anæmic before, and are we not in danger of rendering her more so? but, Can she live in this way four hours? No matter how she may look in six weeks, we shall be satisfied if we have saved her life.

On motion of Dr. Chadsey, it was voted that, as the first Monday in January, proximo, will be the day devoted to New-Year's festivities, the next regular meeting be held on the second Monday in that month.

The President announced that, at the next regular meeting (January 9th), Dr. Knapp would read a paper upon bone-formation in the eye; and that, at the regular meeting following (February 6th), a paper would be read by Dr. Austin Flint, Senior.

The meeting adjourned.

Correspondence.

THE DUTIES OF PHYSICIANS IN CASES OF DEATH, ETC.

BUREAU OF RECORDS OF VITAL STATISTICS, HEALTH DEPARTMENT OF THE CITY OF NEW YORK.

NEW YORK, JANUARY 5TH, 1871.

TO THE EDITOR OF THE MEDICAL RECORD.

I DESIRE to occupy a small space in your columns in order that I may explain to physicians their duties in cases of death, as finally determined by this Department.

Sec. 167 of the Sanitary Code, which lately required *all* deaths to be reported within 24 hours, was amended by the Board on Dec. 28th, last, and now reads as follows:

"Sec. 167. It shall be the duty of each and every practising physician in the city of New York to report in writing to the Board of Health the death of any of his patients who shall have died in said city of contagious or infectious disease, within twenty-four hours thereafter, and to state in such report the specific name and type of such disease."

The diseases referred to by the above ordinance are defined in Sec. 5 of the Sanitary Code to be: Cholera, yellow fever, small-pox, diphtheria, typhus, typhoid, spotted, relapsing, and scarlet fevers, as well as "any new disease of an infectious, contagious, or pestilential nature, and also any other disease publicly declared by this Board dangerous to the public health."

The above-mentioned reports will be made upon special blanks which are about to be distributed among the profession. In *such cases*, however, as well as in *all other* cases of death, the usual "Certificate of Death" must be filled out and be deposited in this Bureau within *thirty-six hours* after death (Sec. 150 of Sanitary Code), upon the responsibility of the attending physician.

Very respectfully,
Your obedient servant,
CHAS. P. RUSSEL, M.D.,
Reg. of Records.

ARMY AND NAVY NEWS.

Official List of Changes of Stations and Duties of Officers of the Medical Department United States Army, from December 18, 1870, *to January* 3, 1871, *inclusive.*

HASSON, A. B., Surgeon.—By S. O. 272, c.s. Headquarters Department of the South, granted leave of absence for 30 days,

MCELDERRY, H., Assistant Surgeon.—By S. O. 162, c.s. Headquarters Department of Texas, relieved from special quarantine duty and ordered to Fort McIntosh, Texas, for duty as Post Surgeon.

BENTLEY, E., Assistant Surgeon.—By S. O. 368, A. G. O., December 20th, 1870: leave of absence extended 30 days.

Dickson, Jno. M., Assistant Surgeon.—By S. O. 121, c.s. Headquarters Military Division of the Missouri, leave of absence extended 30 days.

O'Reilley, R. M., Assistant Surgeon.—By S. O. 385, A. G. O., December 31st, 1870: relieved from duty in the Department of California, and to report to the Commanding General Department of the Platte for assignment to duty.

Storrow, S. A., Assistant Surgeon.—By S. O. 268, c. s. Headquarters Department of the South, granted 30 days' leave of absence.

Medical Items and News.

Contagious Diseases—Vaccination.—Dr. Moreau Morris, City Sanitary Inspector, makes the following report to the Board of Health, January 4, 1870:—

In presenting the report upon contagious diseases to the Board, I beg leave to call attention to the fact that there is a slight increase in the number of cases of small-pox, as reported to this Bureau during the past fortnight.

In the knowledge of this even slight increase, with the fact of there being considerable of this disease closely adjacent to the city, which by constant intercourse may be easily communicated to our population, I cannot but feel that we are admonished to adopt such precautionary measures as will secure the greatest protection. These are vaccination and revaccination. By making known the danger, the public will be urged to apply to the proper places for these means of protection.

To the poor this boon is offered gratuitously at all the city Dispensaries; and with those pecuniarily able to employ medical assistance, there is no difficulty to be found in applying the precaution.

The season for the next four months is propitious for this operation; and therefore the neglect is the more inexcusable.

Again, I would urge this matter upon public attention, as well as that of the Board, for the reason that there is much danger of becoming infected in the promiscuous travelling in street cars and omnibuses in the city. It not unfrequently comes to the knowledge of this Bureau that persons in various stages of small-pox do use these conveyances going from point to point in this city—two such cases occurred during the past week.

As vaccination is the only sure prophylactic against this loathsome and fatal disease, a sense of duty compels me by every legitimate means to arouse the public mind to the danger of neglecting this simple precautionary measure. All, young and old, should be protected by it. A compulsory vaccination by law would almost secure immunity from this disease.

The following table exhibits the movements of contagious diseases in the city during the past two weeks ending Saturday, Dec. 31, 1870:—

Week Ending	Fever. Typhus.	Fever. Typhoid	Fever. Relapsing.	Small-pox.	Scarlatina.	Measles.	Diphtheria.
Dec. 24.	3	19	5	6	54	64	13
Dec. 31.	1	7	4	7	85	88	8

Respectfully submitted,

Moreau Morris, M.D.,
City San. Inspector.

Medical Library and Journal Association of New York.—This is the changed name of the New York Medical Journal Association, adopted at its annual meeting, Dec. 6, 1870, when also its constitution was otherwise amended, and the following officers were elected: *President*, Dr. Samuel T. Hubbard; *First Vice-President*, Dr. Alfred Underhill; *Second Vice-President*, Dr. Edmund R. Peaslee; *Recording Secretary*, Dr. F. A. Burrall; *Corresponding Secretary*, Dr. Emil Noeggerath; *Treasurer*, Dr. Horace P. Farnham; *Librarian*, Dr. Alfred E. M. Purdy; *Trustees, to serve for three years*, Drs. Isaac E. Taylor, Henry D. Noyes, Frank H. Hamilton, Cornelius R. Agnew, Alfred C. Post; *Trustee, to fill vacancy*, Dr. E. S. F. Arnold.

Rhode Island Medical Society.—The quarterly meeting of this society was held at Providence, R. I., Dec. 23, Dr. Geo. L. Collins, of Providence, President, in the chair. An interesting paper on the use of alcohol was read by Dr. Garvin, of Lonsdale, and freely discussed, the sentiment being adverse to its indiscriminate use as a remedial agent. Among other papers worthy of notice we might mention one by Dr. Ballou, of Woonsocket, entitled "Recollections of Scarlatina," as presented in a practice of 38 years, and one on the "Claims of Clinical Medicine as an Independent Science," by Dr. C. O'Leary, of Providence.

An Experience Larger than Jenner's.—Dr. J. P. Loines, of New York, vaccine-physician to the chief dispensary of that city, in bearing testimony to the immense services and complete harmlessness of vaccination, is able to refer to a public and authenticated experience for the past sixteen years, in the vaccination and protection from small-pox, even in periods of epidemic and constant contact with the disease, of about 300,000 persons, with humanized lymph from more than 40,000 infants. He has distributed more than 1,000,000 charges of vaccine lymph to about 3,000 different physicians. In no one instance has he received any complaint of injury or of failure of its product in true prophylaxis.—*British Med. Journal.*

Sulphurous Acid in Typhoid Fever.—Dr. Wilkes, of Ashford, Kent, affirms that he has had *very great success* in the treatment of typhoid fever by means of small doses of sulphurous acid. He gives the acid, with syrup of oranges, in water, in doses of from two and a half to twenty minims every four hours, until the patient complains of tasting, as it were, lucifer matches. He alleges that this remedy arrests the further development of the fever-poison, and thus *exterminates* the fever. "Briefly, it is an antidote." Of 173 cases of typhoid fever treated, only two died, and these two did not take the acid.—*Med. Press and Circular.*

A Large Dose of Chloral.—The poisonous dose of hydrate of chloral has been accidentally tested recently in a London hospital. A patient received in mistake 160 grains of the agent, and recovered, with little other effect than a very prolonged sleep.—*Med. Press and Circular.*

Army Medical Museum, Washington, D.C.—This collection includes 897 human crania, and 34 skeletons. A larger number of skulls from tumuli, and of crania of North American Indians, are found here than elsewhere. In the standard systematic work on surgery, by Billroth and Von Pitha, in the last edition of the English System of Surgery by Holmes, in Didiot's "Service de Santé des Armées," and in nearly all works on military medicine and surgery printed in the last five years, the majority of the wood-cuts are derived from the specimens in the United States Army Medical Museum.

Cases of Ectopia Cordis.—Dr. Henry Tuck, Boston, Mass. [(*Boston Med. and Surg. Journal*), in his translation of the proceedings of the Berlin Medical Society, alludes to a rare case of uncomplicated ectopia cordis in an infant—reported by Dr. Neumann Schlesinger—which lived only a few minutes after delivery. The heart lay entirely free upon the centre of the sternum, horizontally across the body, its base towards the left, and its somewhat rounded apex towards the right. It had no pericardium. The *post-mortem*, made by Prof. Virchow, showed a patent foramen ovale and a defect in the septum ventriculorum.

In closing, he remarks that the interior displacement of the heart entirely outside of the walls of the thorax, without any complication or other deformity, is very rare. There have been found only six cases of this sort on record. The first, observed by Martinez, in Madrid, in 1706; the second, by Büttner, in Königsberg, in 1745; the other four by Sandifort, Haan, Albers, Monod, and Cruveilhier.

Chloride of Potassium.—In the salt deposits which underlie the variegated sandstone of Stassfurt, Prussia, a mass of carnalite—a double chloride of potassium and magnesium—has been discovered, equal to 6,000,000 tons of chloride of potassium. Large quantities of this deposit, amounting to 150,000 tons in 1866, are worked into chloride of potassium. From 20,000 to 30,000 tons of 82 per cent. chloride are now annually produced in this locality, and find ready sale at about forty dollars per ton.

Death of a Philadelphia Surgeon.—Dr. J. Rhea Barton, one of Philadelphia's most eminent surgeons, died January 2, aged 76 years.

The Philosophy of Chills and Fever.—In a review of Dr. Salisbury's theory of intermittent fever by Dr. John W. Weir, Edwardsville, Ill. (*Boston Med. and Surg. Journal*), the philosophy of chills and fevers is thus laid down.

A person exerts himself during a warm day; a cold wind comes on, or night-fall, while he is in a profuse perspiration, and without nourishing food or additional clothing he loses a large supply of animal heat. This is repeated daily for a time; the extremities of the exposed person become cold, he loses vitality, his heart beats feebly, and he sinks into a chill; he is *really dying*, and if there is not vital power enough left, death ensues; if life continues, however, a series of phenomena take place, which, by appropriate treatment, may result in recovery. He does not believe that intermittent fever is produced by any miasmatic poison; but is the result of sudden and repeated draughts of animal heat from the system, which feeble persons can prevent only by suitable clothing, nourishment, and tonics.

A War Victim.—We regret to hear of the death, at Versailles, of Dr. Brewster, an American dentist, who long practised in Paris, and attended many of the crowned heads of Europe. A few years ago he retired in favor of Dr. Evans, and took up his residence at Versailles, where, notwithstanding the American flag floating over his house, a number of Prussian officers were quartered upon him. Dr. Brewster died on Thursday, Dec. 15th, in a fit, doubtless brought on by the excitement and trouble in which he has been living for the last few months.—*Lancet.*

Death of a Noted Southern Physician.—Dr. R. B. Wellford, a prominent physician, and for many years a Professor of Materia Medica in the Virginia Medical Colleges, died Dec. 29th, in Richmond, aged 74.

Dr. Ricord.—In the terrible sortie of November the 30th, the most distinguished services to the wounded were rendered by Dr. Ricord. Having established his head-quarters in a ruined hut, he awaited the arrival of the *brancards* with their unhappy freight. As each poor sufferer was brought in, he gently but rapidly relieved him of his clothes, dressed his wound, or applied the splint to his shattered limb, as the case might be, placed him on his shelf, and had him conveyed by ambulance wagon to the steamers which were moored on the Marne, by Joinville. As soon as the boat had taken in as many as it could hold, it steamed swiftly down stream to the bridge near the Bastile, whence the *brancards* bore the patients to the hospitals or to the private houses which had been prepared for their reception. For hours and hours Dr. Ricord continued thus to exert himself. According to one eye-witness, he "created amazement by his ubiquity." The doctor's seventieth birthday was on the 10th of this month; and in the energy he displayed he adds another to the list of able and vigorous septuagenarians on whose prolonged career of usefulness we lately commented.—*Lancet.*

A Victim to Folly.—It is a melancholy fact, which should however be recorded, that the lamented Dr. Davis, who did such good service in Eastern France, and died at his post from small-pox, had never been vaccinated. He entertained a strong prejudice against the system, which he had expressed on more than one occasion. On his death-bed, when it was unfortunately too late, he did not conceal his regret that he had not submitted to the operation.—*Lancet.*

American Association for the Cure of Inebriates.—This association met for organization in New York City, November 30th, 1870, at Association Building, and made the following declaration of their principles:—1st. Intemperance is a disease. 2d. It is curable in the same sense as other diseases are. 3d. Its primary cause is a constitutional susceptibility to the alcoholic impression. 4th. This constitutional tendency may be inherited or acquired. 5th. Alcohol has its true place in the arts and sciences. It is valuable as a remedy, and, like other remedies, may be abused. In excessive quantities it is a poison, and always acts as such when it produces inebriety. 6th. All other methods hitherto employed having proved inefficient for the purpose of the cure of inebriates, the establishment of asylums is therefore the great demand of the age. 7th. Every large city should have its local or temporary home for inebriates, and every State one or more asylums for the more permanent cure and management of such persons. 8th. The law should recognize intemperance as a disease, and provide other means for its management than fines, station-houses, and jails.

The following officers were elected for the ensuing year:—*President*, Dr. Willard Parker, of New York; *Vice-Presidents*, C. J. Hull, of Chicago, and Hon. Otis Clapp, of Boston; *Secretary*, Dr Joseph Parish, of Media, Penn.; *Treasurer*, Dr. T. L. Mason, of Brooklyn, L. I.

Leprosy of the Bible, or Elephantiasis Græcorum.—The earliest records of the Greek elephant disease in Great Britain are those of the Welsh King, Hod Dha, in the year 950. It is said that King Henry IV., of England; Baldwin IV., King of Jerusalem; and King Robert the Bruce died of it. India is the present great home for leprosy, and in some parts of it *one out of every sixteen people* is affected with leprosy. The first complete work on leprosy has been written by Drs. Danielssen and Pocck, of Norway.

ASSOCIATION FOR THE RELIEF OF RESPECTABLE AGED INDIGENT FEMALES.—The fifty-seventh annual meeting of this benevolent institution was held at the Asylum, 226 East Twentieth Street, Dec. 1st, 1870. There are about 90 old ladies now living in the building. That portion of the Annual Report interesting to medical practitioners and statisticians is the fact that during the intense and long-continued heat of the past summer months, *ten* of the feeblest ones sank beneath the fell destroyer's blow—being over 11 per cent. of the whole. On one day three lay dead beneath its roof awaiting burial. The effect of the heat upon the whole household was great prostration of the vital powers; and although the best medical advice was had, and the kindest and the most careful nursing was given, these *ten* could not be made to rally.

The ages of those who died during the year (12), were as follows:—62, 63, 68, 71, 75, 82, 82, 82, 80, 84, 85, and 87.

The *Attending Physicians* are, Drs. W. B. Bibbins and Frederick A. Burrall; *Consulting Surgeon*, Dr. A. C. Post; *Consulting Physician*, Dr. E. R. Peaslee.

A CURE FOR LOVE MELANCHOLY.—Dr. James Ferrard, of Oxford, in 1640, published the following treatment for *love melancholy:* "The regimen, or order of diet, in cure of love melancholy, differs not at all from that that is to be observed in the prevention of it, save only that it ought to be somewhat more humectative and less refrigative; not forgetting, in the meantime, those meats that by some certaine occult properties they have in them, are found to be very good for those that are sick of this disease; as the turtle-dove, the heart of a wolfe, young owles taken and boyled in the juyce of marioram, the flesh of rats, and the like. And if the party be fallen away in his body, and is now grown very thin and dry, you must then prescribe him the same order of diet, according to Avicen, as you doe to those that are hecticall."

RELAPSING FEVER IN PHILADELPHIA.—John S. Parry, M.D., of Philadelphia (*Am. Journ. Med. Sciences*), publishes the history of 37 cases of this fever, occurring in Philadelphia, in the winter of 1869–70. He opposes the opinion that relapsing fever is largely due to starvation; but believes that a much more potent cause there was overcrowding, and the notoriously small breathing space allotted to each individual in the houses of the poor.

BOTANY AND ZOOLOGY IN MEDICAL STUDY.—Prof. Huxley, an examiner of the London University, complains that the knowledge exhibited by candidates for degrees in medicine is not precise or practical; and he partly attributes this to what he terms the "injudicious tests" applied at examinations for medical diplomas. Prof. Huxley would abolish botany and zoology in medical study, and make them subjects of general education; *materia medica* he would not teach, on the ground that it is as useless to teach a man where drugs come from, because he is a medical man, as it would be to put a man to the manufacture of steel, because as surgeon he would be called upon to use a knife; and comparative anatomy he would abrogate altogether.

"HUNT'S CEMENT" FOR SEALING EDGES OF THIN GLASS.—Dr. Joseph G. Richardson, of Philadelphia, in his "Handbook on Medical Microscopy," gives Hunt's formula for a cement, which is used for sealing the edges of the thin glass in the Army Medical Museum. It is prepared by evaporating Canada balsam to a solid consistence, dissolving it in an equal bulk of benzole, and then thickening it to about the density of cream, with white lead or zinc ground in oil.

THE VITALITY OF JENNERIAN VACCINE LYMPH.—According to M. Melsens, Jennerian vaccine lymph, exposed for an hour to artificially obtained cold of 80°, was found to have preserved its vitality.

VACCINATION FROM KINE.—The great importance of the question of vaccinal syphilis, which has perhaps been intemperately urged in some quarters, but which cannot yet be said to be definitely settled, renders it highly desirable that there should be furnished to the general practitioner some reliable guarantee against a repetition of the unfortunate occurrences which have given rise to the question. Such a guarantee would seem to exist in the use of *non-humanized vaccine.* Heretofore, the impossibility of obtaining such virus, except in rare instances, has stood in the way of its general adoption. We can now state, however, that through the enterprise of Dr. Henry A. Martin, of Boston, who has propagated, through calves, vaccine direct from the Beaugency stock, this difficulty is at last overcome. It will be gratifying to the members of the society to know that a supply of non-humanized virus, from the same source, is now kept up in New York, by a series of inoculations on healthy calves, by Dr. Frank P. Foster of the New York Dispensary.

A MARBLE BUST PLACED IN MEATH HOSPITAL, DUBLIN.—According to the *Canada Medical Journal*, a marble bust of the late Maurice H. Collis, M.D., has been placed in this hospital, where he was one of the distinguished surgeons.

KRYPTOPHANIC ACID.—Dr. Thudicum (*Med. Times and Gazette*) announces that he has discovered a normal free acid in the healthy urine, which he styles *kryptophanic acid.*

THE ORIGIN OF SPECTACLES.—Thomas J. Bowditch (*Troy Times*) finds the earliest record of the use of spectacles is in 1703. According to the *Florence Illustrated*, the first inventor of spectacles was Salvino Armato d'Armati, in 1713. But this is evidently a mistake. Mr. Bowditch may see in some of the Italian galleries an ancient painting of the adoration of the Magi, in which one of the wise men is looking at the Holy Child through a veritable spectacle.

THE LEECH TRADE.—France has consumed annually 100,000,000 leeches; England and Germany the same, and other countries in proportion. The prime cost of leeches sold in Europe exceeds £2,000,000 per annum. Some parts of Australia abound with leeches, those which frequent the Murray River being preferred to any other specimen. They bite freely and leave no inflammatory wound or mark behind; they surpass the famed freckled leeches of Northern Europe.—*Melbourne Argus.*

THE PULSE.—The pulse was first noticed by Galen. It is slower in the inhabitant of the country than in one of the city. In the West Indies it is 100; in Greenland as slow as 40; and is slowest in the cold climates. It is slower in the winter than in summer. Is slow in the morning, quick at noon, and more frequent at night.—*Med. and Surg. Reporter.*

THE ORIGINATOR OF PATHOLOGICAL ANATOMY.—About three centuries before the Christian era, Herophilus, a native of Chalcedon, and Erasistratus, of Iulis, a grandson of Aristotle, laid the foundation-stones of the science of human anatomy. Herophilus, it has been said, resorted to human vivisections, more particularly of criminals. He was the originator of pathological anatomy, and was the first to propose post-mortem examination to learn the cause of death. Fallopius, centuries after, denominated him "the evangelist of anatomists."—*Dr. Gouvr. M. Smith's Discourse.*

Pneumonitis.—So far as published statistics can be relied on, the mortality of pneumonitis varies, under different modes of treatment, from one in two and a half (by Rasori's) to one in thirty-two (by Bennett's). In England seventeen per cent. of the deaths are said to be caused by pneumonia, and in this country its death-rate is thought to be still higher.

Polypus of the Rectum.—In 1816, Delpech, for the first time, described polypus as a distinct affection of the rectum.

Hereditary Twin-bearing Family.—Dr. Curgenven (*Trans. Obstetrical Soc.* of London) attended a lady who was delivered of twins for the fourth time; she had severe flooding, and barely escaped with her life. This was her sixteenth conception during a married life of 16 years. Her mother had twins once, her aunt once, and her great-grandmother twice.

Perils of Epicures.—Those fascinating little foreign cheeses which make their appearance in foreign and fashionable provision stores, wrapped in tinfoil, are not, it seems, as safe as they are, to some people, attractive. The tinfoil contains lead; and the lactic acid of the cheese, favored by the condition of moisture, leads to contamination of the outer layers especially with that poisonous metal. Soap, chocolate, and dry confectionery, so largely wrapped in the foil, were found, on recent examination by Augustus Vogel, to be quite free from contamination.—*British Med. Journal.*

The Monomaniac.—Although it is claimed by most writers on mental diseases that the mind of the *monomaniac* is sound, apart from his delusions, Dr. Chas. A. Lee holds that the diseased idea is a part of the mind; and that the mind, therefore, is no more sound than the body is sound, when a man has a serious disease of some vital organ—that the exquisitely delicate and complex mechanism of mental action, the brain, is radically deranged; else, the morbid idea could not have been engendered and exist.

Improved Instruction of Deaf-Mutes.—In 1867 the "Institution for the Improved Instruction of Deaf-Mutes," or the German method, was established in New York City, at No. 330 East Fourteenth Street. The school is under the superintendency of Mr. F. A. Rising, A.M., assisted by Misses Stevens and Hubbard. Its objects are to teach deaf-mute children (whether congenitally deaf or from disease in infancy) and semi-mutes to use articulated sounds instead of the manual alphabet or the sign language. The institution opened with seven pupils; in 1868 there were twenty-three pupils, and during the year 1869 there were thirty-two. The State donated it the sum of $10,000 at the last session of the legislature. The officers are as follows: President, Mark Blumenthal, M.D.; Vice-President, L. J. Phillips; Treasurer, Isaac Rosenfeld; Secretary, Jacob Rothschild; and eleven trustees. This system of educating deaf-mutes is being introduced in Chicago, Illinois, by David Greenberger, Ph.D., and almost all parents of deaf-mutes in that city and the surrounding places avail themselves of the benefits of this school.

The Discovery of Coal-Tar Colors.—W. H. Perkin, F.R.S. (*American Chemist*), reminds us that aniline purple was discovered in 1856; three years afterward, in 1859, the Magenta was introduced; in 1861, the aniline blue; in 1863, the Hofmann violet; and in 1865, the Britannia violet. Thus we discover that all these colors have not only been discovered, but introduced, commercially, in a period of about ten years.

Sin the Supposed Cause of Disease.—According to W. A. P. Martin, D.D., LL.D., Professor of International Law in the University of Pekin (*Am. Practitioner*), disease is looked upon in China as a punishment for sin in this or a former life, and, therefore, the spirits who are supposed by heaven's permission to inflict these punishments by sending diseases must be appeased. The remark is often made by the Chinese that they are expiating their sin in their disease; that it is the just retribution of heaven. They are thus ever anxious and ready to resort to the temples to burn incense, to discover the fates, or appease the gods, and avert or remove some malady. The people have more faith in their *gods* than their *doctors*; for although they sometimes seek relief from their native physicians (if such they deserve to be called), yet they quite as often resort first to the temples. If the patient recovers it is attributed to the mercy of the god consulted; if he die, it is ascribed to fate. A large and increasing number from all classes, who find no relief from their idols and gods, come at last—often, alas! too late—to the foreign hospital.

Obstetrical Statistics.—N. H. Chesebrough, M.D., of Hoboken, N. J. (*Med. and Surg. Reporter*), records 2,740 obstetrical cases occurring during a period of 25 years. A large majority of these cases were attended by him in New York City and its immediate vicinity.

Excluding 52 cases in which the reports are meagre and insufficient, there remain 2,688, including twins (31 cases), 2,719 births: males, 1,411; females, 1,308. Of this number, 157 were still births: males, 83; females, 74. Of these latter, 61 were the product of abortion: males, 33; females 28; including 5 cases of twins.

The presentations were as follow: Of the head (vertex), 2,596; of the breech, 71; of the inferior extremities, 30; of the superior extremities, 15; of the face, 7; total, 2,719.

In the 31 twin cases the presentations resulted: Of the head, 34; of the breech, 16; of the feet, 8; of the arm, 4. There were 5 cases of placenta prævia births: males, 2; females, 3. Children all still-born.

Forceps were applied in 139 cases. Children born, 141 (including 2 cases twins): males, 83; females, 58. Of this number there were still-born: males, 11; females, 3.

There were retained placentæ in 26 cases, in 8 of which the placenta was more or less adherent, requiring manual interference for their removal. In no case did unfavorable results follow from this cause.

He also records one case each of hypospadias, umbilical hernia, spina bifida, club-hand, hydrocephalus.

New Publications.

Books Received.

Circular No. 3. Approved Plans and Specifications for Post Hospitals. Surgeon-General's Office, Washington, D. C., Nov. 23, 1870.

Circular No. 4. War Department, S. G. O., Washington, Dec. 5, 1870. Report on Barracks and Hospitals, with Description of Military Posts. By John S. Billings, Assistant-Surgeon, U. S. A.

Body and Mind. An Inquiry into their Connection and Mutual Influence, specially in reference to Mental Disorders, etc., etc. By Henry Maudsley, M.D., Lond., F.R.C.P., Prof. Med. Jurisprudence, University College, London, etc. London: Macmillan & Co. 1870.

American Journal of Obstetrics. Edited by Drs. E. Noeggerath, B. F. Dawson, and A. Jacobi. Vols. I. and II. W. A. Townsend & Adams, New York. 1870.

Original Lectures.

THE FORMATION OF BONE IN THE EYE.

REMARKS BEFORE THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK, JAN. 9, 1871.

BY H. KNAPP, M.D.,

NEW YORK.

THE subject which I beg to introduce to your attention is partly of clinical interest and partly of pathological. In the eye, as you know, is represented nearly every tissue of the body except bone. Bone occurs, indeed, in the eyes of birds, in the sclerotic, where it seems to be a support for the ciliary muscle, which in birds is a striped muscle. Is it possible that true bone is ever formed within the human eye, if not under physiological, then under pathological, conditions? This question has been answered both in the affirmative and in the negative by good authorities. In former times very able and expert surgeons described cases of ossification of the interior of the eye minutely enough with regard to their microscopic appearance; and, later, Mackenzie and others published cases perfectly faithful to nature. But there came about a reaction in which the tendency prevailed to discredit these accounts, and to regard all the so-called ossifications within the eyeball as merely calcifications, lacking the corpuscles and nutrient canals characteristic of true bone. The literature of the subject is rather scanty, but an excellent paper was published in *Graefe's Archives*, in 1860, by Dr. Pagenstecher, who made his investigations in the laboratory and under the auspices of Prof. Heinrich Müller, who has done so much for ophthalmic pathology. This paper is based upon the examination of eight cases; it also collates the labors of previous investigators; and it establishes the occurrence of true bone in the eye beyond a doubt. In one of the cases the origin of the bone is clearly traced to the capillary layer of the choroid.

The fact of the occasional formation of bone in the eye being established, many other questions remain to be elucidated, some of which I may point out. 1. Which of the membranes, and which layer of each, are the starting-points of ossification? 2. What is the nature, the cause, and the extent of the ossific process? 3. What changes are produced by it in the membranes not undergoing ossification? 4. Can the affection be diagnosticated, and how? 5. What is its prognosis, and what its treatment? The answers to these questions must rest both upon clinical observations and upon pathological research. I may be allowed briefly to relate my own experience.

The first case which came under my notice was that of a girl, seventeen years of age, of scrofulous habit, subject to ophthalmia from earliest childhood. The left eye was exceedingly weak, and she had lost the sight of it three years before I saw her. At that time the right was also suffering, as it had often done, from sympathetic inflammation. There was great photophobia, and its visual power was failing, being found on examination to be only one-fourth the normal standard. The posterior part of the left globe was as hard as wood to the touch, its anterior third presenting the normal resistance. Since it was evident that the seeing eye was suffering from sympathy with the blind one, I complied with the patient's request to remove the latter. It disclosed a hard shell reaching from the optic entrance to the ora serrata. This shell had replaced the inner layers of the choroid. It was covered internally by a layer of connective tissue; and from the ora serrata, where the hard shell terminated, this connective-tissue layer was continued into a diaphragm which stretched across the vitreous chamber at a short distance behind the lens. The retina was completely detached from the choroid, being connected only with the optic nerve behind and the ciliary body in front, so that it floated in the vitreous as a funnel-shaped membrane. The hard shell proved, under the microscope, to be true bone.

This case set me thinking of the origin of ossification. I considered, as has been urged by others, that ossification is an active process, requiring a large supply of nutritive material, while calcification is a process of regressive metamorphosis, occurring in tissues which have ceased to grow and are undergoing atrophy or degeneration. Ossification, therefore, ought to start from that part of the eye where there is an abundant nutritive supply, and this condition is found only in the capillary layer of the choroid. The external layer of the choroid is extremely rich in blood-vessels, it is true, but they are not destined to its nutrition; it is certainly no better nourished than any other tissue having no peculiar function. It is the number of its *capillary* vessels which determines the dignity of an organ. Now it is a remarkable fact, brought out by the researches of Dr. Leber, that the capillary vessels of the choroid cease at the ora serrata, at the commencement of the pars plana corporis ciliaris. Ossification, in this case, extended just to this boundary; and just here the false membrane stretched across the vitreous chamber.

A physiological principle seemed here to be indicated by pathology; but a single case would prove nothing; it must be corroborated by others. Soon after this, my friend, Dr. Althof told me that he had observed a case in which the osseous plate lay in the anterior portion of the eye, the posterior part being entirely free from bony formation—a case just the reverse of my own. He was kind enough to lend me the specimen. Unfortunately it had passed through many hands, and of the posterior portion nothing remained but the sclerotic; the anterior portion, however, was well preserved. There was an ossified transverse septum extending across the globe behind the lens, from the edge of the ora serrata, leaving the lens and the parts in front of it entirely free from bone. The choroid, I was told, was also free from it. In this case, then, the ossification would seem to have started from the anterior edge of the chorio-capillaris. There was, doubtless, first inflammation of this portion of the capillary layer, resulting in plastic exudation, which, as it increased, had perforated the pigmentary layer and the hyaloid membrane, and streamed into the vitreous as a false membrane. This false membrane then became the site of true bony deposit, to which connective tissue is always liable when it is sufficiently nourished. The formation of bone in this case is, therefore, seen to be connected with the chorio-capillaris, and to constitute no exception to the physiological law above suggested.

Let us follow, for a moment, this process of bone-formation. There is inflammation of the capillary layer of the choroid, with plastic exudation. What does this mean? It means infiltration of the mother-tissue with lymphoid cells, that is, with white blood-corpuscles, together with transudation of blood-serum. Then their metamorphosis begins. The white blood-corpuscle, from being a wandering cell, is becoming a fixed cell. It soon acquires a larger protoplasmatic body, and stretches out offsets, which speedily communicate with the offsets of its neighbor-cells, that have ceased from their wanderings to found a colony here,

Thus there is formed a connective tissue of cells having between them protoplasm and nothing else. Only later, when the new tissue has become older, you find its intercellular substance exhibiting the fibrous character. By and by this intercellular substance gets impregnated with chalk, at first only slightly, afterwards more and more densely; and the denser this chalky infiltration, the more fixed do the included cells (white blood-corpuscles, connective-tissue corpuscles, soon to be bone-corpuscles) become, until the tissue is entirely stiff and their further movement impossible. In the specimen here shown you see the chalky intercellular substance forming a firm trabecular network, holding in its meshes the cells, which are not at all solidified. This kind of tissue, intermediate between connective tissue and fully developed bone, is called by Virchow *osteoid tissue.*

Dr. Althof kindly furnished me also two other specimens, but their condition did not admit of a complete examination. They showed only the osseous shell in the posterior part of the eye, evidently formed from the choroid. This shell was quite thick—in one of the specimens 2½ lines—and exhibited at the optic disc a round hole through which the retina passed to join the optic nerve.

For the opportunity of examining two other specimens, both well preserved, I am indebted to Dr. Reuling, of Baltimore. One of them was important as showing the ossific process in its beginning. A thin osseous, or rather osteoid, plate was forming in the connective tissue which had replaced the capillary layer of the choroid around the optic disc. Its inner surface was lined with connective tissue, while on its outer surface could be seen vessels from the outer layer of the choroid entering its nutrient canals. The anterior portion of this eye was quite remarkable. A section in the vertical meridian showed bone lying immediately behind the iris, beside the lens, giving the impression, at first, that the ossification must have started from the iris or the ciliary body. There would have been nothing improbable in this; for both the iris and the ciliary body are highly vascular; and we often see formed on the surface of the iris false membranes of connective tissue, liable, of course, to ossification. Closer examination showed, however, that the bone had started from the anterior part of the choriocapillaris, and had been drawn forward to its present position only by the contraction of a cicatrix, which had resulted from traumatic injury and included all the structures in the anterior portion of the globe. This was clearly proved by the fact that the layer of choroidal pigment-cells was found intact on the anterior surface of the bony plate. This case affords an explanation of one described by Pagenstecher as a curiosity which he could not understand. In his case the ossification had advanced somewhat further forward and toward the optic axis, coming in contact with the ciliary processes; and the plate of bone showed, impressed upon its outer and anterior surface, a cast of these forming a complete corona ciliaris. This impression of the ciliary processes must evidently have been made upon the bone while in its soft, formative condition; and it clearly shows that the ciliary processes were not themselves centres of the ossification. This first specimen of Dr. Reuling's, like the case first related, had, connected with the bony plate in the anterior part of the eye, a diaphragm of connective tissue, passing across the vitreous behind the lens, to which it was closely attached by the cicatrix above mentioned.

Dr. Reuling's second specimen brought out no additional points, but served to confirm those previously observed. It was also one of traumatic injury, and the foreign body, a piece of percussion-cap, was found encapsuled and suspended in the vitreous immediately behind the posterior pole of the lens. This is quite unusual; heavy foreign bodies entering the vitreous chamber commonly sink to the bottom of the globe.

The last case I have examined is that of the woman who sits before you. Nineteen years ago she had, in the left eye, what was probably an attack of acute iritis, which left the eye weak and its vision impaired. Seven years later both eyes were attacked, the left becoming blind, the right recovering. Since then there have been several accessions of inflammation in the blind eye, with which the right would sympathize. Some four months ago, in one of these attacks, the right eye suffered severely, and she came to the Ophthalmic Institute for relief. It showed the symptoms of grave irido-choroiditis; antiphlogistic treatment proved ineffectual; and enucleation of the left eye was performed, to remove the cause of the probably sympathetic inflammation in the other. Though the operation was done without accident, it has proved of less service than I had hoped, for the right eye has still continued subject to frequent exacerbations of the inflammation.

This eye, which the patient will allow you to examine, presents a typical example of irido-choroiditis. Sympathetic inflammation manifests itself under three forms: 1. Ordinary plastic iritis, which is easy to cure. When treated antiphlogistically, after removal of the other eye, it seldom relapses. 2. Serous iritis, in which a highly plastic exudation is deposited upon the posterior surface of the cornea, as well as upon the posterior wall of the anterior chamber. The affection is very chronic, and very prone to relapse and to bring on complications that may destroy vision—false membranes in the vitreous, cataract, shrinking of the globe, etc. 3. The form you see here—irido-choroiditis. You observe that the pupillary edge of the iris is completely bound down to the lens-capsule. The lens is somewhat opaque, and so is the vitreous body. This opacity of the vitreous, and the impairment of vision greater than could be explained by the iritis alone, indicate inflammation of the ciliary body and the choroid.

The left eye of this patient, before enucleation, presented the characteristic sign which makes it possible to diagnosticate ossification of the capillary layer of the choroid in the living subject—a wooden hardness of the posterior two-thirds of the globe, ceasing abruptly about two lines behind the margin of the cornea. Examining the eye after its removal, I found the evidences of active inflammation in the ciliary body and the iris, which accounted for the sympathetic inflammation of the other eye. Both these structures were thickened by a layer of lymphoid cells and of connective tissue already produced by their metamorphosis. The bony formation presented essentially the same conditions as those before described—an osseous shell occupying the seat of the inner layer of the choroid, covered within by fibrous tissue, and terminating at the ora serrata, whence a diaphragm of false membrane, beginning to ossify at its periphery, stretched across the vitreous.

These are all the specimens which have come under my observation, and reviewing them we come to the following conclusions:

The *origin of true bone* in the eye may always be traced to plastic inflammation of the capillary layer of the choroid. I find nothing in the literature to contradict this, though most of the cases are so ill reported as not to give the origin, sometimes not even the extent, of the ossification. Calcification may occur, and has been observed, in every tissue of the eye—it is found in several of the specimens we have examined to-night—but ossification only in connection with the very vascular

chorio-capillaris. In the retina the blood-vessels are scanty; in the lens there are none at all. Yet nearly every text-book speaks of osseous cataract. It may be correct, but it is in all probability erroneous. I have seen in old cataracts an unmistakable layer of fibrous connective tissue inside the lens capsule, and inside this layer a distinct calcareous deposit. But never have I found in this situation, nor has any one described or figured, a tissue having bone corpuscles, much less Haversian canals. The cases where ossification has been supposed to originate in the vitreous are probably to be explained by the extension into the vitreous of false membranes of connective tissue from the choroid, as in the cases we have seen, and their subsequent metamorphosis into bone. Of Pagenstecher's case of suspected ossification of the ciliary body we have given a rational solution.

The *nature of the ossific process* in the eye is the same as that in connective tissue generally, the same as in the formation of bone from periosteum. In the preparation under this microscope you can trace all the successive stages in the change of connective tissue into bone. The cells (white blood-corpuscles) and intercellular substance are poured out, the former in some places densely crowded; and then, with a clear line of demarcation, the infiltration with chalk begins. In some portions the connective-tissue corpuscles are still preserved round, or nearly so, having few offsets; but the more the chalky infiltration advances, the more numerous the offsets become, communicating with each other to form the canaliculi. The round, movable, lymphoid cell, putting forth its processes and retracting them again, becomes first the jagged cell of the osteoid tissue, and finally the stellate cell, the real bone-corpuscle.

What *changes* are produced by this process *in those parts* of the eye *not undergoing ossification?* The *retina* only exceptionally remains adherent to the bony shell —there is but one case on record. Commonly it is found contracted into a funnel-shape, having its apex at its attachment to the optic nerve, and its base at that to the ciliary body. Of course it has no longer any function, and it is usually more or less degenerated into connective tissue. The *lens* becomes retracted and cataractous—matters of no practical moment, since the eye is already blind. The *iris* and *ciliary body* may remain intact for a great while. I have seen cases showing the signs of ossification which had probably existed for thirty or forty years—where the globe had even assumed a square shape from the traction of the recti muscles—yet no new irritation, no iritis or cyclitis, had been set up in the affected eye or in its fellow. The *outer layer of the choroid* and the *lamina fusca* are, like the iris and ciliary body, often quite unaffected. In these parts run the ciliary nerves, while there are none in the chorio-capillaris or the parts traversed by the transverse septum of bone (or connective tissue). These nerves, therefore, escape irritation, and so the other eye does not suffer, except when we have cyclitis or iritis. Unfortunately these complications are not very rare; indeed, chronic iritis with choroiditis, now called irido-choroiditis, is the disease perhaps most frequently leading to ossification. If the original inflammation is not extinguished, we are apt to get, in some of its exacerbations, pressure on the ciliary nerves, and consequent sympathetic ophthalmia of the other eye, though many attacks may go by without producing it.

The *prognosis* is sufficiently indicated by the considerations just now adduced. There is no hope of preserving, or restoring, the sight of the eye undergoing ossification. There is always a chance of a fresh iritis or cyclitis becoming lighted up in it, and of this producing trouble in the sound eye.

Antiphlogistic *treatment* of the bad eye, for the sake of its fellow, is therefore indicated whenever inflammation occurs. When both eyes are inflamed, both must be treated; and if the sympathetic ophthalmia assumes a grave aspect, prompt extirpation of the ossified and useless eye is the proper measure. It is to be be borne in mind, however, with regard to this last procedure, that it should not be resorted to until the sympathetic inflammation actually appears; for we have seen that, in many cases, ossification may exist for years without the occurrence of any such complication.

CLASSIFICATION OF MEDICINES ACCORDING TO TIME REQUIRED FOR THEIR OPERATION.

BEING REMARKS MADE BEFORE THE NEW YORK ACADEMY OF MEDICINE, DEC. 15, 1870.

BY W. H. THOMSON, M.D.,

PROF. MATERIA MEDICA UNIVERSITY MEDICAL COLLEGE, NEW YORK.

THE great aim in attempting a classification of medicines should be thereby to facilitate their employment. But if this be true, it becomes plain that it is not science in its proper sense which is to be aided by such classification, but art; or, to consider it in a slightly different phase, a true classification of medicines is intended to help, not the memory, but the judgment. I think that this practical purpose should be allowed its due weight at the start, because it has seemed to me that the progress of therapeutics has been hindered by attempts to follow in the classification of remedies the methods adopted in those branches of science whose proper objects of study are the things themselves rather than their uses. The mineralogist, for example, in his classifying, never ranges one sample under the head of building stone, and another as belonging to the precious stones, for human purposes or relations do not come properly within his province. But with a medicine it is not all the article *per se* that claims our interest, as it is that article after it has become an ingredient of the circulation or of the living tissues. Its whole importance, as far as it concerns medical men, consists not so much in what it is as in what it does; or, in other words, it is the action of medicines above everything else about them that should engage our attention, that should direct our investigations, and should mould our classification. In my experience, however, as a teacher of this branch of our art, it has seemed to me that this great practical aim of classification as regards remedial agents has not been carried out in our systematic works on the materia medica as fully as might be wished.

Medicines are first treated with a wearisome fulness of detail about the articles as such, which discourages the student to a degree that is often of itself an obstacle to his acquiring a mastery over them, for he is obliged to spend so much time and effort in learning what the separate articles are, how they are prepared, adulterated, etc., that he has no time to learn what to do with them. This disadvantage, however, might be overcome by application; but there remains the more serious fault which we have alluded to, namely, that the grouping together of the agents is so often after methods, which, while useful enough in wholly different fields, are yet not the best adapted to the great end which a physician has in view.

This fault we would define to consist in regarding the symptoms which follow the administration of medicines

as fit elements for constructing a system of classification. As the entomologist counts the bars on the abdomen, or the spots on the wing of an insect, to determine its place in *his* system, so some of the more striking or patent symptoms which various medicines will produce in common, are accepted as sufficient to bring them together as similar therapeutic agents. Cantharides, for example, is thus wedded to digitalis, because both make urine flow; and in a deservedly esteemed recent work, strychnia follows closely on the carbonate of ammonia as a nervous stimulant. In the same work the student is told that arsenic is a tonic; so is a cold bath, cod-liver oil, and a sea voyage.

Symptomatology is the beginning and the end of the undertaking. A deeper insight than symptoms is not attempted, and little effort is made to discover whether, as in other great departments of science, some one or two master principles may not underlie the whole varied array of phenomena, giving unity to complexity and rewarding the knowledge of them by the gift of skill.

We would therefore beg the indulgence of the Academy for a brief space, while we endeavor to show by a few examples that mere symptoms are just as inadequate towards determining what the real operation or therapeutic uses of a given agent are, as a quick pulse is insufficient to determine the form of a fever, or dyspnœa the nature of a thoracic affection. Symptoms have their place and value in the one case as in the other; but as we cheerfully allow homœopathy to treat symptoms alone, to the utter ignoring of diagnosis, so we must be prepared to apply the same principle in our study of the action of medicines, namely, that as the same symptoms may accompany the operation of very different agents, therefore their significance depends not on themselves, but on their relations, and hence that symptoms can never be by themselves safe materials for laying such a foundation as we need in forming a classification.

Frequent illustrations of the fact that similarity of special symptoms by no means implies any constant similarity of operation, meet us in the investigation of the action of those agents which affect the functions of the glandular system. We choose the case of the glandular system also from the fact that its functions are easier investigated, and seem less complex than some other examples of vital processes, and, moreover, they are characterized by a kind of unity of operation which is often illustrated by the vicarious performance of the duties of a disabled member by one or more of its allies. Now, secretion being the leading glandular function, it seems plainly to follow that we can adopt as the distinguishing feature of the agents which act on the glands, the one symptom of their increasing or decreasing, as the case may be, any particular secretion, and then make our classification accordingly. Thus those agents which increase the renal secretion, for example, are termed diuretics; those which do the same with the intestinal secretions, cathartics; those which check them, astringents, etc. Adopt and inculcate this, however, and the result will be, and actually is, much doubtful practice at the bedside on the part of inexperienced or routine prescribers from what seems a fair inference, namely, that the symptom, *i.e.*, increased secretion or its opposite, is one and the same thing however it occurs. Under the guidance of this notion, opium is classed with tannin, on account of effects on the bowels which are essentially as distinct from the true operation of tannin, as the constipating effect of inflammation of the brain is distinct in its mode from the constipating operation of alum. The true state of the case is that a single symptom is often the only thing which the various agents thus grouped together have in common, all else being diversity, and which diversity should in all logic be taken into account equally with the similarity. Thus opium has just as good a title to be classed among the agents which *increase* gland secretion, as to be called an astringent, for it is actually the surest diaphoretic which we possess. But here again we meet with another form of the uncertainty which results from following the guidance of symptoms, for on tracing their course we will soon find them radiating from the one symptom as a centre, to all points of the circumference as regards their cause or causes. Thus as aids to explain increased secretion, two conceptions are often coupled with the action of the medicines which have this operation, namely, that of direct stimulation of the gland, or else of elimination on the part of the gland. Now, does a Dover's powder directly stimulate the sudoriferous glands after it has paralyzed the intestinal glands; or, on the other hand, is the powder divided up among the millions of the cutaneous tubes, so that each of them bears a share in sweating it out? But admitting both of these as causes of the diaphoresis, what has either of them to do with the universal diaphoresis which breaks out under great fear? Is fear a stimulant to anything, or does fear cause anything to be eliminated?

Let us therefore add another cause of diaphoresis, and say that purely nervous impressions of a depressing character are such; that weakness is a diaphoretic; witness night-sweats, etc.; if so, then how does that purely nervous stimulant, ammonia, cause such prompt sweating? In fact, the one conclusion which such examples force upon us is, that the symptom diaphoresis may have as many distinct causes as the symptom pain; and therefore as no one with the extensive store already accumulated of pathological facts, would now choose the symptom pain—great as it is a symptom—as the basis of classification of *diseases*, neither would *we* speak of a class of diaphoretics, if only we were, as therapeutists, in the same advantageous position as the pathologist.

But analogous instances of doubtful alliances, brought about by symptomatology, meet us frequently in the classification ordinarily followed with the other orders of gland medicines, and examples of which we could instance in detail if time allowed.

The action of gland medicines is simplicity itself compared with the operation of those agents which influence the functions of the nervous system. Instead, therefore, of being a great unit, as common language would seem to imply, its infinity of special functions dependent upon their corresponding centres or nerves, makes it an absurdity to speak of any medicine as acting on the nervous system as such, for that is never what the nervous system does itself, to act, or to be acted upon as a whole. What even the most powerful narcotics affect is only one or two, or at most a very few, out of the vast number of special nerve-centres which compose this system, but never all of them, or any considerable number of them. By one nerve, for example, we see, or taste, or hear; by another we feel pain; by another we do not feel at all; it is a nerve of motion, or a spinal or vaso-motor, or inhibitory nerve, or nerve-centre, etc., etc. So that it would be even more possible to conceive of every flexor, extensor, voluntary, and involuntary muscle of the body starting into simultaneous activity, than to imagine such a wonderful thing as a general nervous stimulant, or general sedative, unless in the latter case it be death. To characterize any agent, therefore, as a nervous stimulant, or nervous anything, is to use language so vague as to come very near having no meaning at all.

We must, therefore, choose, as our first task, the localization, if possible, of the operation of a given narcotic, and not till this be done attempt to define the nature of that operation. It is something to be able to do even this, to determine what part of the nervous system is acted upon. Thus it is well to find that digitalis acts on the nerves of the heart, but whether that action is indicative of a strong sedative, or just the reverse, to an overpowering, stimulant impression on those nerves, is still a matter of doubt. There are two ways at least, if not more, of making the heart beat as digitalis does, so that while some authorities term it a cardiac paralysis, others praise it as a powerful cardiac tonic. Here, therefore, as with glandular medicines, the symptom is not the complete exponent of its cause; in fact it is much less likely to be so than in that case, for we have here no such tangible objective element as a secretion which can be inspected, tasted, or analyzed, but the manifestations of function only, and that function the most intricate and complex of all the workings of life. Reliance on the symptoms, therefore, of narcotics affords us anything but a satisfactory basis for classification. In the administration of no other order of agents do we meet with so many individual idiosyncrasies, that is, of very diverse symptoms being produced by the same agent in different individuals. To one patient we give a dose of opium, for example, to procure sleep, and the result is gratifying; but the identical dose given to another for the identical indications of the first, is followed by anything but sleep, he becoming crazed by a wakeful activity of the imagination that borders upon maniacal delirium. What other inference can we draw from this than that symptoms here are but superficial indications, which are dependent on secondary causes, and hence that their guidance can lead us but a little way to the deeper and real relations in the operation of these agents?

The speaker alluded to tonics, and to the class of specific remedies like arsenic, iodine, and bichloride of mercury, and their effects, showing that these agents are not symptom remedies. They do their work well, but health alone is their symptom.

In considering the analogous relations of symptoms in the field of pathology, we should first take note of the present inferior status as regards the opportunities for eliciting symptoms on the part of the therapeutist compared with the pathologist. It is safe to say, that when a pathologist examines a case of disease, he has ten symptoms of the operation of disease to one which the therapeutist has of the operation of medicine. The posture of the patient, the expression of the countenance, the tone of the voice, the complaints of the sufferer himself, then the *tactus eruditus*, and lastly the skilled ear of the investigator, all help to swell the quota of the signs which as premises are to lead to the inference. But this by no means sums up all the advantages which he possesses. Let all these fail of affording certainty, there yet remains that great centre of interest, the post-mortem table. Indeed, we have more than one learned acquaintance who sometimes appear to regard a fellow-being's chief reason of existence to consist in his developing something that could be presented at the Pathological Society, and who are ready to discard, as grounds for determining the true nature of a case of disease, all the other signs put together compared with those which are afforded by an examination of the dead body. In the late discussion in the Academy, for example, on the nature of pulmonary phthisis, clinical experience, or anything else that could not show cause to the scalpel or microscope, seemed to some, if we interpret them fairly, as having no show whatever.

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Quite parallel to the bearing of time distinctions between acute and chronic diseases, do we find the distinctions between short-time and long-time medicines. The field for the employment of short-time remedies is almost exclusively in the management of acute diseases, while the long-time medicines are remedies only for chronic diseases. Ammonia, for example, a transient neurotic, is of little use against the panting debility of chlorosis; iron is of as little use against the trembling debility of typhoid fever. If we look a little farther, we find why this is so. Short-time medicines are almost entirely symptom medicines; that is, their operation is simply that of producing certain symptoms in the system, and nothing else. Hence their action is just the same, whether they are operating on a healthy or an unhealthy system. Tartar emetic, for instance, will prostrate or vomit any person in the best of health; opium, in its appropriate dose, will benumb whoever takes it; and a cathartic is always a cathartic. What, therefore, we employ them for, is to produce by them symptoms which will neutralize an opposite class of morbid symptoms, but not to do more than that, for we do not expect by them to cure the diseases themselves.

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The theory, which for so long held disastrous sway over the profession, that a fever, or any other acute disease, could be eliminated by purging, sweating, or even bleeding, is now pretty generally abandoned for the truer view, that all that glandular medicines effect is, to remedy the complications which we have referred to. For acute diseases cannot be eliminated; we must let them run their course, which, from their original nature, is a fixed course, with the tendency to recovery. Our business as physicians, therefore, is to mitigate symptoms, as they arise, by symptom remedies, and to ward off complications, biding our time meanwhile for the few days, or even hours, which are allotted to the acute affection.

But with the long-time medicines all is different. In the first place, their remedial operation is not accompanied by symptoms. We do not mean to say that they cannot, or do not, produce symptoms, for some of them do; but it is instructive to note, that *if* they do so, then they are not acting in the way which was intended. Thus mercury is often used as a cathartic, that is, as a symptom remedy; but when so, then it fails of operating as a constitutional remedy, so that it has long been inculcated, that if you aim at obtaining its alterative effect, you must give it slowly, in small and repeated doses, and prevent it from going off by the bowels. Iron will occasion headache, and iodine symptoms peculiar to itself; but if so, then they are not acting properly. Moreover, the other contrast with symptom remedies is equally striking and significant. The action of symptom remedies being merely to cause symptoms, it matters not whether the system is in a state of health or in a state of disease, they will act all the same, subject, of course, to individual or unessential modifications. But long-time remedies are not to act against temporary symptoms, but against the diseases themselves, or in long standing morbid states. Hence they do not act the same on the healthy as on the sick. Iron and cod-liver oil are no assistance to a person when he is not a patient, they cannot make him a whit stronger than does his daily food, if of good quality. So mercury benefits him only who has come to need it from syphilis or from a few other causes; and a man must be really ill before he can thrive on arsenic. What we accomplish, therefore, with this class of agents, is to pass far beyond symptoms, or even beyond short-time diseases.

We act upon the processes of life and nutrition themselves, to deal with perversions of a profounder nature than catarrhs or colds, or, in a word, anything that can be "caught," from a common sore throat to small-pox. Settle it, therefore, that the particular complaint is not an acute or short-time malady, and your class of remedial agents for dealing with it is also determined. Symptom remedies, with their very limited and very transient operation, will in such instances do little else than palliate a few symptoms of the disease, and even this they will do but imperfectly if the symptoms have their origin in serious constitutional causes. As a rule, symptom remedies are scarcely more than makeshifts, adapted for temporary exigencies. The other class, on the other hand, are the true remedies, whose right use enables the physician to cure what nature herself cannot cure. If they act at all, their operation has for its seat a field which is far removed from the action of neurotics, or of glandular medicines, or of anything which can do its whole work in a few minutes, for they affect the processes which govern either the make of the living cell itself, or the forming conditions necessary to its function.

If time would allow, we would have desired to show that the essentially remedial operation of the class termed alteratives, so closely resembles the operation of the class usually termed tonics, that we may regard them as the same in kind, only that alteratives are very limited, or, as we might say, specific in their operation, while their tonic allies have wider applications. It may seem strange to connect mercury and iron together as like remedies; but at least we will say that so closely are they allied, when mercury is really remedial, that it greatly promotes the action of mercury against syphilis to have it aided simultaneously by iron, cod-liver oil, and quinine, and similar constitutional sustainers. Often do we find that mercury or the iodide of potassium will not benefit, but do harm, unless we first secure the influence of the other division of time remedies. So also arsenic will frequently not cure but aggravate a leper, unless we first build up, as practical men have expressed it, the patient's system. But we cannot now enter upon either the distinctions between the short-time remedies among themselves, or the long-time among themselves, as our subject is more properly the demonstration of the value of the element time in the operation of an agent, as an indication of its true status when regarded from a therapeutic point of view. For, as we remarked in the beginning of our essay, practical applications should be the determining influences in the construction of systems of classifications when remedies are the subject of investigation. What special advantages, therefore, result to the physician when pondering how to deal with a disease by this time principle of distinction between remedies? Let us take for illustration the single class of nervous diseases. Neurotics are the medicines whose operation is specially that of affecting or modifying the functions of the nervous system, of producing nervous symptoms in short.

But neurotics are short time, mere symptom medicines, soon acting and soon passing. What is the practical inference, therefore, other than that notwithstanding their seeming close connection with the nervous system, they are almost useless in the treatment of real nervous diseases? True nervous diseases are characterized by the most potent and remarkable of all morbid symptoms, only that they are intermittent. Hence, because they manifest themselves generally at intervals, the symptoms are frequently mistaken for the disease itself. A paroxysm of asthma, for example, is taken for the disease asthma, and the neurotics, stramonium or belladonna, are spoken of as remedies for asthma. They are no such thing, just because they are neurotics, and therefore can relieve nothing but symptoms; no one is ever cured by them of asthma, but only of the asthmatic *paroxysm*.

If you wish to cure asthma, try such slow-acting agents as arsenic, or iodide of potassium, or nitrate of silver, or a seton in the nape of the neck, which cannot act against the paroxysm, or in other words, the symptom, when it occurs; but if faithfully pursued will often remove the disease itself, of which the bronchial spasm is but one of its manifestations.

Epilepsy seems to be one of the most typical examples of a nervous disease. It does not affect the temperature of the blood, nor derange the constituents of a single secretion, or apparently do anything except cause purely nervous disturbance. But epilepsy is anything but a mere nervous complaint; its history may be traced till it passes without doubt from its origin into the deepest recesses of nutrition; so that it is not a sensational expression to say, that in some cases epilepsy began at the first moment of conception, like what the alienist rightly maintains as true of certain cases of insanity.

Now, after a considerable experience in the treatment of this disease, I would say decidedly that neurotics are as useless against epilepsy as opium is against phthisis. I would rather, if left with but two remedies against this complaint, select cod-liver oil and the hypophosphites, than I would the whole class several times over of the so-called antispasmodic nervines.

Neuralgia certainly is a nervous symptom, but it also—and in fact generally—is a disease; and when that is the case every neurotic should be abandoned, unless for the momentary effect of benumbing an uncontrollable paroxysm, when we might have recourse to chloroform, simply to sleep through the attack, but certainly not to remove the neuralgia, for the malady itself, if cured at all, can be cured only by slow modifiers of the constitutional condition.

These examples probably may suffice to illustrate our position. If we are correct in assigning to the element Time so much practical importance in the determination of the nature of remedial agents, we may hope that the undertaking is of some practical use. Classified simply according to their symptoms, or supposed symptoms, remedies seem to us like a great ill-disciplined army, which, the more numerous it is, the more difficult is it to handle, and which, when brought up in such fashion against the enemy, soon turns into a confused mob, in which leaders and led become hopelessly mixed together. Classified, however, according to the more comprehensive and practical element of Time, each division then takes naturally to its own work, each arm of the service is known, so that light cavalry are never expected or commanded to do the work of heavy infantry, or, in other words, mere symptom remedies will not be pitted against such enemies as serious constitutional diseases.

SKIN-GRAFTING.—J. J. Chisolm, M.D., Prof. in the University of Maryland (*Richmond and Louisville Med. Journ.*), alludes to his three successful operations of transplanting epidermis into the raw surface of old ulcers, for the purpose of promoting their healing. This surgeon states that the operation, first introduced recently by Reverdin, of Paris, and repeated by Dr. Geo. Pollock, of St. George's Hospital, London, and others in this country, is particularly adapted to chronic ulcers, more especially those resulting from extensive burns, which heal to a certain extent, but cannot be urged to a final closing.

Original Communications.

A CASE OF PLASTIC OPERATION

PERFORMED FOR THE

CLOSURE OF AN OPENING IN THE RIGHT SUPERIOR NASAL FOSSA.

By GURDON BUCK, M.D.,

SURGEON TO NEW YORK HOSPITAL AND ST. LUKE'S HOSPITAL.

Margaret Kelley, æt. 21, native of Ireland, unmarried, admitted into New York Hospital, March 3d, 1869. Patient, now in the enjoyment of good health, states that about nine years ago, after scarlet fever, a dark spot appeared on the upper part of the nose, on the right side, and occasioned the opening which still exists. Its situation and shape are accurately represented in the accompanying figure, taken from a photograph. It is of an elongated ovoid form, one inch and a half in its vertical diameter, and three-quarters of an inch in its longest transverse diameter. It opens largely into the right nasal fossa, its outer margin approaches close to the inner canthus of the right eye. The skin at the margin is everywhere supple, and dips somewhat into the cavity. The interior surface, as far as it is visible, is healthy in appearance. The voice is unaffected. The disfigurement occasioned by the opening being very conspicuous, patient is naturally anxious to have it, if possible, removed. She keeps it constantly covered by a patch of adhesive plaster.

Operation, March 5th, under ether.

The skin at the margin of the opening was everywhere detached and everted, a process requiring extreme care, owing to the thinness of the skin, especially at the inner canthus of the eye. An exact pattern of the shape of the opening was then cut from oiled silk, and served to shape the patch of skin intended to be raised from the forehead for closing the opening. The pattern was laid upon the forehead, so that the patch of skin to be raised should retain its connection above and corresponding to the left supraorbitar notch, where it would derive its support directly from the branch of the ophthalmic artery emerging from the orbit. The pattern was laid on, not vertically, but obliquely, so that its long axis inclined to the right side at an angle of about forty-five degrees with a horizontal line. An incision was now carried through the entire thickness of the skin around the edge of the pattern, and the included patch of skin dissected up from the pericranium, except below where it was to retain its connection. The dark line, *c*, *a*, *b*, Fig. 1, marks the boundary of the patch. A narrow strip of skin, covered partly by the eyebrow, intervening between the patch just raised and the upper and inner margin of the opening, was divided across at its lower end, *c*, *d*, and dissected up to make room for the patch. The patch was next brought round edgewise from left to right, and applied over the opening, thus making a circuit of a little more than a quarter of a circle. It was secured in its new place by two pin sutures inserted at opposite points near its base, and one at its extremity; these were wound with figure of eight turns of cotton yarn, and between them fine thread sutures were inserted close to each other. The narrow bridge of skin raised to allow the patch to be brought into place, was transferred to the bare surface upon the forehead from which the patch had been dissected up, and was found sufficient to fill it up, so that no bare surface was left uncovered. Fine sutures were employed to complete this adjustment and terminate the operation. Tepid water dressings were directed to be kept applied to the parts. The subsequent progress was favorable. Primary union took place throughout the whole circuit of the transferred

Fig. 1.

Fig. 2.

patch, except about one-fifth of its circumference, which bordered on the inner canthus of the eye, where union failed in consequence of the opposite edges of the wound becoming inverted. To remedy this defect, a second operation was performed April 6th. The ununited edges were pared afresh, and two pin sutures inserted with special care to evert the edges and hold their cut surfaces incontact. Additional fine thread sutures were also necessary to complete the adjustment. A perfectly successful result followed this operation. The transplanted patch in its new situation formed a rather conspicuous

bulging ridge, particularly across the upper part of the nose, where the twist had taken place. To remedy this disfigurement, a third operation was performed on the 17th April. A prism-shaped slice of skin was excised from the summit of the ridge along its entire length, and the edges accurately brought into coaptation and secured with fine thread sutures inserted close together. This operation did well, and accomplished what was intended, the levelling of the surface, and a great improvement of the appearance of the face. On the 4th May, patient was discharged, much gratified with her improved condition. (See Fig. 2.)

NEW YORK, No. 46 West 29th street.

Reports of Hospitals.

MANHATTAN EYE AND EAR HOSPITAL.

A CASE OF ACUTE INFLAMMATION OF THE EXTERNAL AUDITORY CANAL, CAUSED BY IMPACTED WAX.

REPORTED BY D. WEBSTER, M.D.,
HOUSE-SURGEON TO THE HOSPITAL.

D. H., aged 28, laborer, presented himself at Dr. Roosa's clinic, at this hospital, Nov. 1st, 1870. Five days previously his right ear was attacked with pain, tinnitus, and deafness, which symptoms had gradually increased up to date. He had slept but little for the last two nights, in consequence of the severity of the pain. He could hear the ticking of an ordinary watch at the distance of only one inch.

Upon examination we observed a little puffiness of mastoid process, some swelling back of the angle of the lower jaw and of the walls of the meatus. There was also some pharyngitis. Through the aural speculum the external meatus was seen to be plugged with hard wax. This was removed by carefully syringing the ear with warm water. Some pus was found in the canal, and at first the membrana tympani was thought to be perforated, but upon more careful examination it was found to be intact, though a complete examination of it was rendered impossible by the narrowing of the meatus consequent upon the swelling.

Politzer's method for inflating the middle-ear was practised, and the patient was directed to fill his ear frequently with warm water.

Nov. 2. He said that the pain was so relieved, that he rested well last night, and complained more of a sensation of soreness than of pain. The tinnitus and swelling were undiminished, but the hearing distance had risen to ten inches. On using Politzer's method, the patient felt the air enter neither ear, and when this was done again with the addition of the vapor of chloroform, as first practised by Dr. J. S. Prout, it was felt only in the left. He was directed to continue the use of warm water.

Nov. 3. The swollen walls of the meatus had become more sensitive to the touch, and the pain had returned. He was treated with the warm aural douche, Politzer's method again used, and the entrance to the meatus stuffed with cotton in order to exclude the cold air.

Nov. 5. The swelling had increased. Dr. Prout, who saw the patient for Dr. Roosa, made two incisions in the walls of the meatus—one backwards, the other upwards. Pus followed the knife in the latter. The pain caused by the incisions was immediately relieved by the warm douche (Clarke's aural douche).

Nov. 8. He was again seen by Dr. Roosa. There was an abscess in the anterior wall of the meatus, just behind the tragus. This was opened, and a considerable quantity of thick pus evacuated. The meatus was as thoroughly as possible cleansed by syringing, and the use of pledgets of cotton.

Nov. 15. The swelling had so far diminished that the drum-head could be properly examined. It was covered with bits of wax and epidermis, which were removed by gentle syringing. The hearing distance was twelve inches. A week later Dr. Roosa pronounced the patient cured so far as the ear was concerned, all signs of irritation having disappeared, no tinnitus remaining, and the hearing function being restored to its normal condition. A gargle of alum and chlorate of potassa was used for his pharyngeal trouble.

A point of especial interest in this case is its causation. As the membrana tympani remained intact throughout, as even after the swelling had subsided small particles of wax still adhered tenaciously to the surface of the drum-head and of the walls of the meatus, and as no other cause could be assigned for the inflammation, we could not avoid the conclusion that it was due to the impacted cerumen acting as a foreign body.

Similar cases are very rare. Tröltsch does not mention impacted wax as one of the causes of otitis externa, though he says that sometimes it sets up irritation in the walls of the canal and the outer surface of the membrana tympani, and the translator informs us, parenthetically, of a case in which it caused "acute inflammation and perforation of the drum" (page 83, 2d edition).

This is the only case of the kind that has occurred in this hospital during the two and a half years of its existence, during which time about eleven hundred and fifty ear cases have been treated.

Reviews and Notices of Books.

FIRST MEDICAL AND SURGICAL REPORT OF THE BOSTON CITY HOSPITAL. Edited by J. NELSON BORLAND, Physician; DAVID W. CHEEVER, Surgeon. Boston: Little, Brown & Co. 1870. 8vo., pp. 684.

ON the completion of the fifth year of the establishment of the Boston City Hospital, the trustees desired the medical staff to prepare an enlarged consolidated report. The duty of editing it was intrusted to a committee consisting of Drs. Borland and Cheever. All the departments have been represented, and general, medical, and surgical statistical tables have been added. The articles contained in this well-printed and bulky volume—made unnecessarily thick and unhandy from the heavy quality of the paper used—will compare favorably with those of the Hospital Reports published either at home or abroad. Some of them are of great value. The editors have been judicious in their selection, and the chief contributors have done their work well. The first article is on perinephritic abscess, by Dr. Henry J. Bowditch. Dr. David W. Cheever contributes Articles II., IV., VIII., XI., and XIII., respectively on excisions of joints, on displacement of the upper jaw, on reproduction of the tibia, on encephaloid tumor of tonsil, occlusion of the vagina, and a surgical abstract. Article III., cases of pneumonia, is by Dr. J. Nelson Borland. Article V., treatment of acute rheumatism, is contributed by Dr. John G. Blake. Article IV., by Dr. Howard F. Damon, is on the treatment of skin diseases. A very valuable paper on typhoid and typhus fever, by Dr. J. Baxter Upham, is Article VII. The two following articles are, an

ophthalmic report by Dr. Henry W. Williams, and an aural report by Dr. J. Orne Green. In Article XII., the subject of periuterine inflammation is well treated by Dr. Alexander D. Sinclair. If the subsequent volumes of these reports maintain the reputation which the present one is sure to have, we may expect a valuable annual contribution to medical and surgical practical literature, and shall await them with pleasure.

On Diseases of the Spine and of the Nerves. By Charles Bland Radcliffe, M.D.; John Netten Radcliffe; J. Warburton Begbie, M.D.; Francis Edmund Anstie, M.D.; and John Russell Reynolds, M.D. Philadelphia: Henry C. Lea. 1871. 8vo., pp. 196.

For the composition of this imposing, but incorrect, title-page the publisher and not the authors are responsible. The book is a reprint of some of the articles in the second volume of Dr. Russell Reynolds's "System of Medicine," published more than two years ago, a second edition of which is now passing through the press in London, and will be shortly issued. It has already been printed in the *Medical News and Library*, during the past year. The articles are of unequal value, and the statement in the "Publisher's Note," that "the volume will be found to present the latest advances in the knowledge of the several subjects therein discussed," is business-like, both in spirit and phraseology, but entirely gratuitous and inexact. The most important contributions to the disorders of the spinal cord—with which this book is chiefly concerned, and not the spine, as its title misleadingly states—have been made since these articles were written, and there is consequently no note of them. On the other hand, there is an excellent paper on epidemic cerebro-spinal meningitis—entirely out of place in a work on diseases of the nervous system, and which in the new English edition has been transferred to the first volume on General Diseases—by Mr. J. Netten Radcliffe; and another equally good on neuralgia by Dr. Francis Anstie.

Materia Medica for the Use of Students. By John J. Biddle, M.D., Professor of Materia Medica and General Therapeutics in the Jefferson Medical College, etc. etc. Fourth Edition, Revised and Enlarged, with Illustrations. Philadelphia: Lindsay & Blakiston. 1871. 8vo., pp. 381.

Professor Biddle tells us in his preface that the present edition of this popular work has been carefully revised and much new matter added. Most of the articles have been modified, some rewritten, and many new ones added. Recent additions to the materia medica have been introduced, and the defects and shortcomings of previous editions have been to a degree rectified. The present is certainly an improvement on former issues of this work. The illustrations, to our mind, do not add to its value; they increase its size, and take up room which might be used more profitably to the reader. The diagrams of the instruments employed in the atomization of liquids do not represent those most generally used by those who do much with this means of topical indication. The dose of bromide of potassium is stated at five, ten, and *even twenty* grains. Little can be done with less than twenty grains, and thirty grains to a drachm is the dose most commonly required. Nothing is said about the effects so frequent from its persistent employment, and it is asserted "to be the most efficient remedy which we possess in allaying venereal excitement," a statement which those who have often tried it under these circumstances would, we suspect, decidedly demur to. The dose of phosphide or phosphuret of zinc is given as $\frac{1}{16}$th of a grain; whereas one-tenth of a grain is the ordinary dose.

The style of the volume is attractive.

Chemistry, Theoretical and Inorganic. By Geo. F. Barker, M.D., Professor in Yale College. C. C. Chatfield & Co., New Haven, Conn. 12mo., pp. 275. 1871.

Chemistry is something that concerns every member of the human family, and especially physicians, who ought to be, if they are not, well familiar with the state of chemical science, and with all its leading and many of its special departments.

Prof. Barker is at that time of life when scientific men do their best work, and he has succeeded in producing a treatise which for thorough representation of modern rather than ancient ideas, for compactness of style and arrangement, and for clearness and accuracy of definition, is, we think, unsurpassed. Few tasks so rack and worry and weary, even the best disciplined brain, as preparing precise and lucid definitions to the terms of a growing science. This task Prof. Barker has performed with great painstaking and signal success.

The only fault we have to find with the work is, that it is too small, at least for the very large number who cannot attend chemical lectures, or for the still larger number who are obliged to attend very poor lectures.

It is unfortunate that chemical lectures for medical students do not more fully represent the progress of modern science, so that physicians should not be obliged to depend on their own exertions for their chemical knowledge.

This book is an unsurpassed guide for those who attend lectures where the system on which it is based is taught, and well taught; but there is much needed a work for those who are obliged to depend on text-books—a work which shall contain all that this work contains, and much more; which shall be made interesting as well as true, and practical as well as theoretical; which shall state facts as well as principles, and give anecdotes, it may be, as well as definitions; that, in short, by its fascinations as well as by its thoroughness, shall commend the noble science of chemistry to those who suppose that they have no love for it, and be, so far as possible, at once a teacher, a lecturer, and a text-book for the hosts of wandering sheep who have no shepherd. Such a book, we hope that Prof. Barker will in time prepare, and that, too, before he has lived long enough to grow into enervation. The typography of the book, we may add, is perfect and peerless, and greatly adds to its value.

Progress of Medical Science.

Formation of Urea in the Liver.—Dr. Cyon of St. Petersburg has published in the *Centralblatt für Medizin. Wissenschaft* an account of some researches made by him, from which he infers that urea is formed in the liver. Blood withdrawn from the carotid arteries of dogs was rapidly defibrinated; part of it was placed in an apparatus arranged for propelling it through the liver by mechanical pressure. Three canulæ were introduced, one into the inferior vena cava, a second into the hepatic vein, and a third into the portal vein. The first of these was connected with an aspirator consisting of two cylinders partly filled with mercury; the other two were connected with the vessels containing blood. The blood was now allowed to flow through the liver; and, after it had flowed through the organ several times, the quantity of urea was deter-

mined by Liebig's method, and compared with that in the ordinary blood of the animal. The blood which had passed through the liver was found to contain the larger quantity of urea. In 100 cubic centimetres of blood sent twice through the liver of a moderate-sized dog, there was 0·14 gramme of urea; in the same quantity of blood not so treated, the amount was 0·09 gramme. When the blood was sent through the liver four times, the amount of urea in 100 cubic centimetres was 0·176 gramme; that in a similar quantity of the ordinary blood of the animal being 0·08 gramme.—*Wiener Medizin. Wochenschr.*, Oct. 29, 1870.

EXPERIMENTS BY BROWN-SÉQUARD.—Dr. Brown-Séquard publishes a paper in the *Lancet* of 6th ult., calling attention to his recent experiments on the effects of injuries of the brain on the lungs. He finds injuries to the base of the brain followed by hemorrhage, œdema, emphysema, etc., of the lungs. He says:—"When I publish the details of my experiments on the influence of injuries to the brain on the lungs, I will show that, in man, diseases of or injuries to the brain very frequently produce organic alterations in the lungs. I will content myself here, to prove the frequency of that morbid influence of the brain on the pulmonary organs, to state that, out of 188 cases of organic disease of the brain recorded by Calmeil, there was a morbid state of the lungs, especially inflammation, in more than 60 cases—*i. e.*, in one case out of three. I have no doubt that many patients attacked with brain diseases die from a disease of the lungs caused by that of the central organ of the nervous system."

SYPHILIS IN THE FEMALE.—Mr. Evans, an army surgeon who wrote a most excellent work on venereal sores, remarks that "an altered secretion that cannot be detected is sufficient for the production of disease," adding that, when he attended the examinations of 200 women of the lowest description, who were frequented by the soldiers belonging to the army of occupation at Valenciennes, no disease could be detected in the women, and yet the hospitals were filled by diseased soldiers infected by these very women. He noticed exactly the same thing at Lille, and observes that "the condition that communicates disease in the female is only to be known by its effects."

Dr. Macloughlin, who was for twenty-seven years in practice in Paris, whenever a gentleman applied to him suffering from syphilis, endeavored to ascertain from what person the disease had been contracted; and it was his regular practice, in company with the French police-agents, to visit the brothels and find out the person who had communicated the disease. He took considerable trouble in this matter, and used on each occasion to give the police-agent and the woman each a Napoleon. In all these cases the woman was submitted to careful examination by the police-surgeon, himself, and others; and Dr. Macloughlin declares that "it was excessively rare for them to discover the source of infection in the female." In one gentleman, where secondary symptoms of a severe type were developed very speedily after the primary symptoms—a case pronounced to be unequivocal syphilis by M. Biet and others—the only two women with whom the patient had ever had connection were brought up and repeatedly examined by five or six medical men, including the police-surgeon, and not the slightest trace of disease could be detected in either of them. Dr. Macloughlin had unusual opportunities for studying the disease in Paris and elsewhere; and, whatever we may think of his peculiar opinions, no one can deny that his testimony as to facts is thoroughly trustworthy.

Mr. Skey, in a letter written to Dr. Macloughlin in May, 1864, and referring to these facts, says that he is convinced, in common with many surgeons, that discernible disease in the female is not necessary to the production of venereal disease in the other sex; and that every variety of sore, and every form of purulent discharge, from the slightest to the most intense, can be contracted from women who have not in their own persons indications of disease of any kind.

Dr. Aitken says, in his work on the Science of Medicine, fifth edition: "Medical inspections are formal, and look useful, but the infecting sore, the true syphilitic one, can rarely be detected in the female." In another part of his work he observes: "The syphilitic sore, when it does occur in women, is readily overlooked, even when searched for with great care, aided by a vaginal examination with the speculum."

M. Simon, who is acknowledged to be one of the first pathologists in Europe, says: "The various local states which most habitually spread the infection of true syphilis are constantly overlooked in examinations made expressly for their discovery."

Dr. Alfred Fournié, who has succeeded M. Ricord in the Hôpital du Midi, the venereal hospital for males in Paris, has written a thesis on syphilitic contagion. In conjunction with M. Puche, he carefully traced the disease to its source in 873 cases. Out of the 873 cases coming promiscuously under the care of these gentlemen, 625 contracted syphilis from women registered by the police, and carefully and frequently examined by the police-surgeon.

Dr. Vintras, in his evidence before the Venereal Commission, says, in confirmation of the above facts: "You will find that almost all chancres—the local sores that produce true syphilis—are, in Paris, derived from women who make prostitution their sole business," and are consequently registered and subject to periodical examinations.

So well is the contagious nature of apparently healthy secretions of persons who have suffered from secondary syphilis understood on the continent, that Guichard and Davila insist that not only must the genital organs be carefully introspected, but also the anus, mouth, throat, stripped skin, etc.; and Lanceraux, in his recent work, remarks: "Since it has been admitted that secondary lesions are contagious, and that they produce infection more frequently perhaps than the primary lesions, introspection of the anus becomes indispensable."

In a recent lecture published in the *Lancet*, Mr. Skey stated that some of the worst cases of gonorrhœa were derived from women free from disease, but who had recently recovered from menstruation.

The practical inference to be derived from the above is simply this—that no method of examination can guarantee freedom from disease, either syphilis or gonorrhœa.

Mr. Morgan, speaking of the duality of venereal sores, says that, in women,

"1. The ragged, soft, pus-secreting sore at the fourchette or nymphæ, is the most frequent; but constitutional signs are also almost invariable.

"2. Suppurating bubo is comparatively rare.

"3. Induration of the glands is by no means so marked as in the male.

"4. Infection seems frequently to originate in a vaginal discharge (possibly a true gonorrhœa); this is followed by mucous patches; and these herald in constitutional evidences, the occurrence of a sore being often not discoverable.

"5. Just as with the male, texture seems to influence the induration; a sore on the nymphæ may be hard, and

of an inflammatory type, but true induration is found most frequently on the labium."—*Med. Times & Gazette.*

Fungoid Growths in Choleraic Discharges.—Assistant Surgeon Lewis, M.B., of England, having been sent to India to investigate into the truth or otherwise of the hypothesis put forward by Professor Hallier, of Jena, and others, as to the fungoid origin of cholera, sums up his results as follows:—That no "cysts" exist in choleraic discharges which are not found under other conditions. That the cysts or "sporangia" of fungi are but very rarely found under any circumstances in alvine discharges. That no special fungus has been developed in cholera-stools, the fungus described by Hallier being certainly not confined to such stools. That the still and active conditions of the observed animalcula are not peculiar to this disease, but may be developed in nitrogenous material, even outside the body. That the flakes and corpuscles in rice-water stools do not consist of epithelium, nor of its *débris;* but that their formation appears to depend upon the effusion of blood-plasma, and that the "peculiar bodies" of Parkes, found therewith, correspond very closely in their microscopic and chemical characters, as well as in their manifestations of vitality, to the corpuscles which are known to form in such fluids. These are generally, to a greater or less degree, associated with blood-cells, even when the presence of such is not suspected, especially as the disease tends towards a fatal termination, when the latter have frequently been seen to replace the former altogether. Finally, that no sufficient evidence exists for considering that vibriones and such like organisms prevail to a greater extent in the discharges from persons affected with cholera, than in the discharges of other persons, diseased or healthy; but Mr. Lewis is unable to prove or to disprove whether the vibriones, bacteria, and monads (micrococci) are peculiar in their nature, or whether they are able to give origin to peculiar phenomena in a predisposed person.—*The Lancet.*

The Local Treatment of Cancer was the subject of the second question discussed before the recent Medical Congress at Florence. In addition to removal by surgical interference, which was sustained by the majority of surgeons as the only efficacious means of cure, attention was called to two papers, the first from Dr. Neftel of this city, upon the effects of electrolysis; the second from Professor Schiff, upon the action of pancreatic and of gastric juice. This physiologist had experimented upon two fragments of the same cancer with these juices, and attributes a greater value to the former, which, according to his investigations, digests the tumor without attacking the blood-vessels and exposing the patient to hemorrhage. The gastric juice destroyed *all* the tissues, while the pancreatic juice attacked only the cancer-cells.

Saponified Cod-Liver Oil.—Dr. Van den Corput, Prof. of Clinical Medicine at the St. Jean Hospital, Brussels, has lately published a paper on the advantages he has derived from the employment of cod-liver oil saponified by him in the treatment of tuberculosis, particularly in its early stages. His formula for this soap is as follows: 100 grammes of cod-liver oil are to be saponified by means of hydrated lime, and then aromatized by 1 gramme of essence of bitter almonds, or anise. This mass is to be divided into boluses of 25 or 30 centigrammes, which may be rolled in a mixture of sugar and iris powder, and covered, if required, with etherial tincture of tolu. From 6 to 10 of these are to be taken daily, two at a time, immediately after a meal. In certain cases, other substances that are indicated may be associated with the soap.

The direct advantages of the preparation as a medicinal agent are: its solid form, and its slight and not disagreeable taste. In consequence of its easier ingestion and assimilation, it does not disturb digestion, and does not give rise to the diarrhœa so often caused by the cod-liver oil alone.

The preparation is contra-indicated when in very advanced phthisis there is excessive hectic, and the digestive organs have undergone serious alterations. It should also be suspended when hæmoptysis exists; still, even in the third period of the disease, it produces in many cases a very marked sedation of most of the hectic symptoms. Usually, diarrhœa ceases or diminishes; the evening exacerbation of temperature declines; the colliquative sweats diminish, and the weight of the body sensibly increases. Sometimes, even, the remedy has seemed after prolonged employment to have led to the cicatrization or drying up cavities of moderate size.—*Med. Times & Gazette.*

The Virtue of the Sunflower.—Mr. Martin, in a paper presented by him to the *Société Therapeutique de France*, affirms that the common sunflower, extensively cultivated, has the effect of neutralizing the unwholesome vapors which are so fatal to health and life in marshy districts. The Dutch, who live only by dyking and draining their low lands, and are therefore good authority, pronounce sunflower culture a specific for intermittent fever, the scourge of Holland. They assert that it has disappeared from every district where the experiment has been tried. It is not yet known whether this is the result of its rapid growth producing oxygen, or whether it emits ozone and destroys those germs, animal and vegetable, which produce that miasma which brings fever in its train.

A Case of Favus.—Dr. Pick reports in the *Archiv für Dermatologie und Syphilis* a case of favus, where the only place where the crust was present was on the glans and sulcus coronalis of the penis. On the inner surface of the left thigh, where there was a contact of the scrotum and thigh, there was a ringed herpetic eruption of a parasitic nature. A careful examination of the glans and sulcus coronalis was made, and no trace of hair-follicles was discovered—a point of interest, as it is insisted by Bazin and others that the presence of hair-follicles is necessary to the development of favus.

Galileo's Sphygmonome.—In the interesting life of Galileo, lately published by Macmillan & Co., occurs the following paragraph respecting the sphygmograph:—

"The connection of the great bronze lamp in the nave of the cathedral at Pisa with Galileo's earliest mechanical discovery, is well known. Viviani says that, having observed the unerring regularity of the oscillations of this lamp and of other swinging bodies, the idea occurred to him that an instrument might be constructed on this principle which should mark with accuracy the *rate* and *variation* of the pulse. Such an instrument he constructed after a long series of careful experiments. This invention, though imperfect, was hailed with wonder and delight by the physicians of the day, and was soon taken into general use under the name of the *pulsilogia*."—*The Lancet.*

Laminaria Tents.—Dr. J. C. Nott, of New York (*Am. Jour. of Obstetrics*), presents the following conclusions in regard to the use of laminaria tents:

1st. Where moderate dilatation is required, the laminaria is preferable to the sponge tents.

2d. If placed in warm water, just before introduction, for a few minutes, they become flexible, coated

with mucilage, are easily curved to suit the cervical canal, and may be inserted with the utmost facility.

3d. From their smoothness and softness they are removed without force, and produce no abrasion or irritation.

4th. They may be medicated with morphia, iodine, or anything *soluble in water*, but do not absorb alcoholic solutions or glycerine. After being so charged, they may be dried and kept for use an indefinite time.

5th. They do not become putrid, and therefore poisonous, as do sponge tents, and may therefore be retained twenty-four hours or more with impunity.

6th. The black, ovoid laminaria, from the Bay of Fundy, is much preferable to the other varieties yet brought to our markets, and free from the objections he has seen made to laminaria by some writers.

7th. The laminaria will be found of great benefit in obstructive dysmenorrhœa, if introduced a few days before the menstrual period, and also in cases of uterine catarrh connected with contracted cervix; they prepare the way well, too, for all intra-uterine medication. In either case, if softened in hot water before introduction, they rarely produce any pain or irritation.

8th. He thinks it better to insert several small tents than one, as the small ones expand more rapidly than the large ones.

THE FALLOPIAN TUBES.—Up to the seventh month of fœtal life both tubes are of equal length; from that time, however, the growth of the left is a little less than that of the right. The average result of 10 examinations of girls who died before puberty was as follows: The right tube measured 5.98 cm. in length, the left, 5.7. The average of 9 examinations of virgin women who died between the ages of 16 and 81, was 9.5 cm. for the right, and 8.5 cm. for the left tube. After the menopause the oviducts may grow from 2.5 to 4.5 cm.

During the active period of the sexual organs, the difference in length between the two tubes is less marked; the average of 22 examinations in married women under 45 years of age gave, for the right 11 cm., and for the left 10.9 cm. After menopause, however, the difference is striking, being in 12 women examined between 46 and 80 years, 9.75 cm. for the right, and 9.1 for the left.—*Am. Jour. of Obstetrics.*

A CASE OF A SUPERNUMERARY TESTICLE.—In "Holmes' System of Surgery," it is stated that the question of supernumerary testicles may be dismissed with the statement that there is no clear evidence of one ever having been met with.

D. Thomas Kennard, of St. Louis, Mo. (*Med. Archives*), relates a genuine case, occurring in a patient 43 years old, whom he has known intimately for ten years. Repeated physical examinations enabled him to feel three distinct glandular bodies of equal and unusual size in the scrotum; one upon the right side in its natural position, and two upon the left, one above the other, apparently connected by the same cord, but entirely distinct from each other, and a considerable space intervening between the two. Each body has that tense, elastic, peculiar feeling, characteristic of the testicle, and compression produces that sickening pain which pressure upon any other portion of the organism fails to produce. The supernumerary testicle is not free in the scrotum, as most probably any abnormal tumor simulating it would be, and it is now, and always has been, of equal size with the other testicles.

SCARLET FEVER.—Dr. L. Wood, of Ausable Forks, N. Y., writes:—

"My experience of scarlet fever, which has prevailed in this place and adjacent country for the past year, coincides with that of Dr. Zeigler, of Carlisle, Penn. My treatment is much the same as his. Potass. chloral where the throat symptoms are mild, but in severe cases I have found much benefit from a strong gargle of tinct. ferri chlor., with quinia sulph. in solution, and also administered internally. In one-half of my cases there was inflammation of the glands of the throat, which usually subsided to an application of liniment composed of sweet oil and ammonia well bathed in with heat. In only a very small number of cases did suppuration occur. The tepid bath in my practice has been serviceable. Where the febrile movement has been intense, and the pulse very rapid—one hundred and sixty and upwards — I have employed the veratrum viride to the extent of nausea, with prompt amelioration of all the symptoms. Very many cases of general dropsy occurred, with uræmia, for the relief of which I have depended mainly upon elaterium, even in the youngest children. My experience as to the contagious nature of the disease accords with the Doctor's, and I think that our percentage of fatal cases is quite as small as his."

A NOVEL CASE AND ITS TREATMENT.—S. J. Cobb communicates the following to the *Nashville Journal of Medicine and Surgery*:—A lady having lost, at the age of twenty, all of her upper teeth, except the roots of the second left superior molar, over which she had worn a plate for ten or twelve years, called upon a dentist to have the plate refitted. He suggested the propriety of having the roots removed, and in endeavoring to do so pushed them up into the antrum. In examining into the case closely, he found, from necrosis and exfoliation, not only the floor of the antrum covering these roots destroyed, but a portion of the ethmoid and inferior turbinated bones, making an opening sufficiently large for their roots to pass into the nasal fossa, from which they passed out at the nose. There had been a copious fetid discharge through the nose for five years, following erysiplas of the face. After removing all the necrosed bone, a sponge saturated with two parts of carbolic acid and one of tincture of iodine was passed well up into the parts. For two or three days the discharge was increased, but soon decreased, and at the end of twenty days entirely ceased.

AN IMPROVED METHOD OF PLUGGING IN EPISTAXIS.—It is generally expected when the anterior and posterior nares are plugged, that a clot forms on the floor of the nose which compresses the oozing vessels. M. Fano, of Paris, uses the following method:—Instead of tying a pledget of cotton to the free end of the thread, he ties a series of pledgets along the string, as papers are tied to the tail of a kite. The string being now pulled from the nasal end, is made, by a little management on the velum, to pass behind the latter with its four or five pledgets, until the latter are fairly lodged in the nose, the last pledget occluding the aperture of the posterior nares. The front may be plugged as usual. The whole is left four days.—*Lancet.*

BROMIDE OF POTASSIUM IN LEUCORRHŒA.—Dr. A. H. Kinnear reports (*Chicago Medical Journal*) twelve well-marked cases of leucorrhœa, none of which were of less than six months' standing, where bromide of potassium was administered with excellent success in doses of grs. xx twice a day. Under this treatment the disease yielded in a majority of cases in one month. He also gave the remedy in a case of gleet, which resulted in a perfect cure in the course of a week.

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MEDICAL PSYCHOLOGY.

IN giving place to our esteemed correspondent "T." we do not wish to be committed to his opinions, for, on the contrary, we do not agree with him. No one, we believe, desires or proposes to make metaphysics, or psychology proper, a part of the curriculum of medical study, as our correspondent seems to suggest; and he is further at fault, we think, in assuming that the clinical study of insanity, as a disease, has so far failed as to be abandoned, as we will presently show.

There is nothing connected with human health that an accomplished physician ought not to study, and to have every facility for studying. Until within a few years, the mass of general practitioners of medicine have known little or nothing of insanity. They have hardly considered it a disease within their scope of study, but have rather regarded it as a phenomenon, like witchcraft or somnambulism; something to be speculated on for curiosity or melancholy amusement, instead of a bodily disease capable of being handled, modified, and cured by their art. If it be a disease, as it is, it certainly falls within the province of medical observation, study, and treatment; and it is therefore worthy of a place among the proper accomplishments, if not the absolutely necessary qualifications of the medical practitioner.

The importance of teaching in medical schools, and of the clinical study of insanity by medical students, is sufficiently evident by the practice and testimony of conspicuous names in the profession here and abroad.

The annual addresses to the Medical Society of the State of New York, in 1868 and 1870, by Dr. Gray of the State Lunatic Asylum, and Professor White of the Buffalo Medical College, take bold and strong ground on this subject, which appears to have been generally approved. The State Society unanimously passed a resolution "expressing the necessity of making didactic teaching and clinical instruction in insanity and all other cerebral and nervous diseases, obligatory as a part of the curriculum of study in our medical colleges."

In November, 1869,* there was a discussion of this subject, by the Medico-Psychological Association, meeting at the Royal College of Physicians, in Edinburgh. Professor Laycock was Chairman, and brought the subject of "clinical teaching of insanity" before that body, and urged the "propriety of memorializing the managers of the Edinburgh Royal Infirmary, with a view to greater facilities being given than at present, for the clinical teaching of insanity." After some remarks, and quoting from the observations of Dr. Thurnan, Professor Laycock asks significantly:—

"But how was a practitioner to be taught, if he only followed the study of insanity theoretically? He therefore thought the meeting would do well to recommend to Managers of the Royal Infirmary to set apart wards suitable for the treatment of the cases forced on the institution, according to past experience; not to establish an asylum, but to have wards for the reception of those cases which must be forced upon the attention of a private practitioner, and have special provision for the instruction of the great body of medical students. Insanity was usually included in a course of medical lectures; but in the lectures he gave on the subject, he found it utterly impossible to teach without bringing the students in contact with the insane, and illustrating cases to them, and when he did so, he went to an asylum and saw, cursorily, the progress of mental disease. The various causes of mental disease ought to be made a subject for the examination of students. In concluding, the learned gentleman referred to the increase in the number of cases of insanity, and said he thought the members of the association would do service to the public, and greatly advance the interests of medical science, by adopting resolutions to the effect, that provision should be made for clinical instruction in the classes of cases received in the wards of the infirmary to which he had referred; that medical students should be required to attend hospitals for the insane, and that there should be an examination of each in that special department of science, to see whether he was fitted for the performance of his important duties.

"Dr. Sibbald (having been invited by the chairman to give some information with reference to the system of instruction in mental diseases adopted at Berlin) said, that after the manner in which the subject had been treated by the chairman he had really nothing to add. He certainly thought it would be a great advantage, were they to do anything which would have as its result the association of diseases exhibiting mental symptoms of any other kind, and that they should, as far as possible, identify the teaching of their special department of medicine with other branches of medicine, as being a necessary part of the whole. He thought that from the manner in which the subject was taught in Berlin, it had perhaps arrived there at the most perfect form which was known at present, of teaching insanity as a branch of medicine. Professor Westphal had under his charge wards in the Charité at Berlin, devoted to diseases of the nervous system, not complicated with symptoms. He had also wards into which were received diseases of the nervous system exhibiting mental symptoms—that was to say, as they would ordinarily name them, cases of insanity. The wards into which the insane patients were received, were practically an asylum, with full asylum administration in so far as that was necessary for the

* *Journal of Mental Science*, January, 1870. London.

treatment of acute diseases. Only recent cases were admitted, and consequently the students saw the cases which they were most likely to meet with in practice. When cases threatened to become chronic, they were transferred to the district asylum.

"He therefore having been impressed with the importance of teaching in the way in which it was carried on in Berlin, had very great pleasure in supporting the proposal of the chairman, with this exception, that perhaps their function would be more properly performed if they confined themselves to saying that clinical teaching of insanity should be made an imperative part of medical education."

The discussion terminated in the unanimous adoption of the following resolution:—

"*Resolved*, That this meeting desire to express a strong opinion of the necessity of making clinical teaching of insanity imperative in every medical curriculum, and request the Secretary to send a copy of this resolution to the Medical Faculties and University Courts of Scotland, the Boards of Examiners in the Universities of Scotland, and the members of the General Medical Council."

Dr. Gray, in his annual address referred to, gives a summary of the efforts made both in this country and in Europe in regard to the study of insanity, which we condense.

"I am well aware that this subject of extending the course of medical training to embrace the study of insanity is beset with difficulties; but they are not insurmountable. . . . . Dr. Benjamin Rush probably gave the first lectures on the subject. In 1791, he was called to the chair of the Institutes of Medicine and Clinical Practice in the University of Pennsylvania, and was one of the hospital physicians. He delivered lectures to the students of the university on insanity, with clinical instruction as a part of his course. This was continued till 1812, when his lectures were published—'an elaborate work which had long been impatiently expected.' (*Encyclopedia Britannica.*)

"Esquirol, in France, delivered lectures to his pupils in 1810, but he was not associated as a teacher with any of the schools of medicine.

"Sir Alexander Morrison delivered lectures in Edinburgh and London for many years, says his son, 'to the members of the medical profession, and to such other gentlemen as signified their wish to attend them.'

"Dr. A. L. Sutherland, at St. Luke's Hospital, London, delivered lectures on the pathology and treatment of insanity, from 1843 to 1855. More recently (1853) Dr. George Johnston delivered lectures on the subject before the Royal College of Physicians, in Edinburgh. Dr. Daniel H. Tuke has for several years delivered lectures on psychological medicine at the York School of Medicine. Dr. Guislain began in 1849 to deliver clinical lectures on insanity in the Insane Asylum of Ghent, before the students of the University in that city; Baillarger and Ferrus also in Paris as early as 1854; Dr. Pliny Earle in this country before the Berkshire Medical School, Massachusetts; and Dr. Tyler to a few pupils at Cambridge, Massachusetts."

It was reserved for Professor Griesinger, in Zurich, Switzerland, and now of Berlin, to bring to those great schools of medical learning, the full realization of the importance of this subject to general medicine, as well as psychology, and to secure full instruction in this branch, in connection with the teachings from the chair of pathology. "Thus," says Griesinger, "has been established its true position as a proper and profitable subject of study, and as one demanding alike systematic and clinical instruction," and "its recognition as a regular portion of medical education." This distinguished pathologist maintains, with his characteristic comprehension of the whole field of medical research, that medicine is one study, and that the interdependence of all its branches forbids the successful study of any dissevered from the whole, and that "the lesions of the brain and nervous system constitute the real subjects of treatment, and their discovery is the true province of diagnosis." "Thus," he declares, "is psychiatrie intimately allied with the whole subject of cerebral and nerve pathology. What psychiatrie is, is understood by him alone who comprehends this alliance; and he only who has been duly instructed in the difficult questions of diagnosis in cerebral and nerve diseases, can embark on these problems respecting mental disorder, with hope of satisfactory results." Professor Griesinger in a recent letter says: "I remain firmly in the opinion that it is an absolute necessity to provide in every medical school for clinical instruction in this branch of science, equally important for the welfare of the patients and their families as for the forensic duties of the profession. I remain also in the opinion that mental diseases are only a part of cerebral and nervous diseases, and that it is most convenient to connect intimately the study of mental science with the study of the pathology of nervous diseases.

"Clinical teaching in psychiatrie is not merely a future possibility, but an existing fact in several medical schools in Germany: the difficulties are by no means so great as many people think; nay, the carrying on the work of this teaching is very easy, if only men of good will and experience are charged with the execution.

"Since my first lecture of 1863, I was constantly occupied in this line. At Zurich, in the summer courses of 1863 and 1864, I had a very satisfying psychiatrical clinique, only in an old and small asylum, but with really great advantage for the pupils. Since the nearly three years I am at Berlin, my psychiatrical clinique had an augmenting success every year, and my results have been very satisfactory. The Prussian Government accorded me at my proposition, when I entered its service, the invaluable institution of a special division of the insane patients. So I can unite *de facto* the study of the two intimately connected branches, and I give now in the winter course regular lectures on nervous diseases with clinical demonstrations in each lesson. I think this way the best for the professor and for the pupils, and, I may say, for the advancement of science; but if, however, such a combination of the two cliniques may be impossible at another place, then I cannot but strongly recommend to carry out the clinical teaching of psychiatrie alone."

"Within a year, the Bellevue Hospital Medical College of New York, has established a chair of 'Diseases of the Mind and Nervous System,' to which Dr. William A. Hammond has been appointed, and the 'College of Physicians and Surgeons of New York' has appointed Dr. D. Tilden Brown, of Bloomingdale Asylum, lecturer on Psychological Medicine and Medical Jurisprudence. Thus the initiatory step has been taken in this country."

It seems to us that the sort of practice and study thus recommended by distinguished professional gentlemen is not liable to the suspicion or the reproach of an attempt to fasten metaphysical abstractions and subtleties upon a profession which naturally abhors them; and that the spirit in which the effort is urged

and prosecuted is eminently practical and deserving of encouragement rather than check.

We learn that the Board of Education of this city have recently introduced a new idea into their department, which bids fair to become, at no distant day, one of marked importance. For several years past the necessity for certain sanitary reforms in our public schools has been apparent, and various suggestions to effect the same have been made by those who were most familiar with the practical details of the school system; but because of a failure to appreciate their importance by those who controlled the schools, they have never yet been productive of any beneficial result. There is a prospect now, however, that a change for the better is to be effected. We are not familiar with the details of the proposed reforms, but among them may be mentioned the rules governing the absence of teachers through illness, the system of vaccination, the condition of the schools themselves as to heating, ventilation, overcrowding of pupils, etc., etc. The subject is one which every good citizen, especially parents of school-children, is or should be interested in, and we have no doubt it will become ere long one of practical interest in all our large cities. Dr. R. J. O'Sullivan, for many years one of the most active promoters of the welfare of the public schools, has received the appointment of Visiting Physician to the Board of Education, and under his surveillance we have no doubt great good will be accomplished.

We shall call attention to this matter at greater length hereafter, and meanwhile venture to express the hope that the profession will take an active interest in the proposed reform, and do all in their power to render it a practical success.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, November 23, 1870.

Dr. J. C. Hutchison, President, in the Chair.

Dr. Finnell exhibited the liver and uterus of a gin-drinking negress, aged 50, who died of anasarca. The former organ was the seat of marked cirrhosis, the latter of fibrous tumors.

FIBROMA UTERI.

Dr. Little also exhibited a uterus removed from a married female patient, aged 23, who had died the day previous to the meeting at Bellevue. In Jan., 1868, she was caught during her menstrual epoch in a rain-storm, and the flow was in consequence temporarily arrested. The attendant pain and inconvenience were relieved by a hip-bath, &c., &c. Three months after this she probably miscarried. She presented all the usual symptoms of ovarian disease on her admission, but three days after was seized with uterine hemorrhage, which ran her into such a typhoid state as to preclude the possibility of any careful uterine examination. She gradually sank and died, and during the last two or three days of her life she passed from the vagina some ragged degenerated material, which at the autopsy was found to fill the uterus, much enlarged in consequence. There were evidences of peritonitis in the neighborhood of the womb. Dr. L. was of the opinion that the mass was a degenerated fibroid. By request the specimen was referred to the Committee on Microscopy.

EPITHELIAL DISEASE OF THE MALAR BONE.

Dr. Little also exhibited the left superior maxillary and malar bones which he had removed, respectively in an interval of four months, from a woman forty-four years of age, for tumors in those localities involving said bony parts. A year ago last May the patient first began to have a discharge from the left nostril, coincident with which a growth appeared, which in a year more completely plugged the passage and projected through the external orifice. Dr. L. having seen her then for the first time, believed the growth to be polypous; but in attempting to remove it in the ordinary manner found it fleshy in consistency, and attended with so much hemorrhage as to necessitate plugging. She was afterwards sent to St. Luke's Hospital, where, after a consultation, it was thought advisable to remove the left superior maxillary bone. This was accordingly done in the usual manner, when not only the nostril but the antrum as well was found involved in the disease. The section was made through the zygoma, and a portion of the hard palate was left. The second operation, four months afterwards, was necessitated by the reappearance of a growth over the malar bone. This latter was mainly confined to the soft parts in the neighborhood of the bone, and was found on examination by Drs. Delafield and Buck to be epithelial in character, while the first was supposed to be simply papillary.

A third specimen by the same gentleman was a portion of the head of the ulna, removed by operation from a lad fifteen years old, who sustained an injury of the wrist joint followed by inflammation, necrosis, fistulous openings, etc. The head of the bone referred to was involved in necrosis, as well as its articulating surface with the radius. Both of these portions, with the necrotic tissue, were removed.

EMBOLUS:—VEGETATIONS ON VALVES.

Dr. Loomis exhibited a specimen taken from a German woman, aged thirty-two, who was admitted into Bellevue Hospital on the 10th of Nov. Nine years before she had her first attack of rheumatism, three years ago her second attack, and a year ago her third attack. Each one confined her to her bed for two or three weeks. With these exceptions she reported herself as a perfectly well and healthy woman up to last May, when she began to complain of pain in her left side and a shortness of breath on exertion. She had also a cough, which was accompanied by rather a tenacious expectoration. Last August she was confined at full time of a healthy child. Since that time she had failed rapidly in health, so that on her entering the hospital she was very much emaciated. Her temperature was then 102°, pulse 100, and her respiration 30. She located the pain in her left side, over the region of her heart, and her expectoration resembled somewhat that of pneumonia.

On physical examination there was slight dulness on percussion over the posterior portion of both lungs as high up as the scapulæ, and over each lung there was a diffused bronchial respiration, most marked on the left side. There was an increase of vocal resonance, but there were no râles appreciated at that time. The apex of the heart beat to the left of the left nipple, the whole cardiac impulse was abnormally diffused, and was accompanied by a purring thrill. At the junction of the third rib, and just behind the sternum,

there was distinctly felt a pulsation synchronous with the cardiac impulse. The area of the heart on percussion was increased, showing it to be hypertrophied. On auscultation a distinct murmur was heard at the junction of the third rib with the sternum, having its maximum intensity at that point, and heard with, and after, the second sound. This was conveyed along the sternum downwards to the xiphoid cartilage. There was also another murmur, which was of a blubbering character, conveying to his mind the idea of vegetations, and heard before the first sound, and with greatest intensity at the apex. There was still another murmur following the first sound, and with it heard with greatest intensity at the apex, conveyed to the left, and heard behind the angle of the scapulæ. Dr. L. thought that he also heard a fourth sound at the base. From this time there were also pulsations in the carotids. From this time the patient lost flesh the more steadily. It should be stated that there was a node upon the forehead, and also several along the line of the tibiæ.

On the 15th of November, five days after her admission, it was noticed that the radial pulse in the left arm was felt very indistinctly, and that there was the same indistinct beat along the course of the artery until you reached the axilla. At the same time it was noticed that there was a loss of pulsation in the femoral artery, and in the common iliac below the bifurcation. Nov. 18th she was seized with a severe attack of dyspnœa. The House Physician, who examined her at that time, discovered crepitant râles over the posterior portion of both lungs. These râles, and râles of smaller size, were heard in a circumscribed area. The succeeding day these râles had almost completely disappeared, giving place to the same diffused bronchial respiration heard at the time the patient was admitted into hospital. Nov. 20th she became delirious. There was then noticed a complete loss of the radial impulse; in fact no pulsation could be detected below the axilla of that side. The pulsations in the arteries of the right side were good. Gangrene had commenced in the foot, the result of the continued interruption of the circulation to the part. The temperatures in two sides varied materially in consequence of the differences in circulation. In the right axilla it was 102½°; in the left, 100°; in the right inguinal, 101°; and left, 97. This difference in the temperature continued until death. The delirium continued, the patient passed into a typhoid condition, the heart's action became irregular and intermitting, and on the evening of the 20th she became unconscious and sank.

On opening the cavity of the cranium there were found in the arachnoid about four ounces of fluid. The arachnoid itself did not present anything abnormal. The left middle meningeal artery was plugged. There were no points of softening in the brain substance. The pericardium was found attached to the pleura, and the two surfaces were agglutinated to each other. The pericardial sac contained about twelve ounces of fluid. There were firm bands of adhesion between the two surfaces of the pericardium, and these bands were of considerable length at certain points. The right side of the heart was normal; the left ventricle was, however, very much dilated, its walls hypertrophied. Mitral and tricuspid valves were found thickened, and their edges at different points seemed to be adherent. On the ventricular surface of the aortic valve was a vegetation the size of a pea, standing out very prominently. The mitral valve contained vegetations on both its surfaces. There must have been interference in the passage of the blood from the auricle into the ventricle, also obstruction in consequence of vegetations on the ventricular surfaces of the mitral valve. The axillary artery was plugged with fibrine, as was also the abdominal aorta about two inches above the iliac bifurcation. This plug extended into the femoral, but only partially obstructed this vessel. The mesenteric artery was also plugged up from its origin to an inch and a half.

The lungs were firmly adherent throughout, and the cavity of the left chest contained considerable serum. The right lung was œdematous. There were no evidences of pneumonic inflammation in either lung. In the kidneys were yellow infarctions, as was also the case with the spleen, and one of the arteries of the latter organ was plugged.

The interest of the case was mainly in the points of diagnosis.

Dr. Briddon asked if there was any difference in the character of the bruit after the embolus occurred?

Dr. Loomis was not made aware of any such difference.

Dr. Briddon remarked that he met with a case of embolus of the cerebral artery ten years ago, in which a difference in the bruit was very manifest after the accident.

Dr. Loomis asked if hemiplegia might not have had something to do with the alteration in the character of the bruit?

ANEURISM TREATED BY LANGENBACH'S METHOD.

Dr. Briddon exhibited a specimen of thoracic aneurism, the chief interest of which was in the treatment. The patient was a very intelligent German apothecary, who first presented himself for treatment in Jan. last. He then had all the physical signs of thoracic aneurism of the ascending arch—a pulsating tumor to right of sternum, and a characteristic bruit—and was suffering from the effects of pressure. He was placed under the treatment advised by Prof. Langenbach, viz., hypodermic injections of ergotine. During the period of observation of the patient, from the first of January until the day of his death, one hundred and fifty injections were administered, averaging two grains each. Four grains were sometimes injected, when the symptoms of ergotism seemed to show themselves. The preparation was Merk's, and was generally dissolved in glycerine, alcohol, and water, and a quantity of the fluid equal to twelve drops thrown in at once. The immediate effects of the injections were markedly beneficial in relieving the unpleasant symptoms attendant upon pressure; but in view of the uncertainties attending measurements in such cases, no trustworthy assertions could be made. During a period of three or four weeks in September, the treatment was intermitted in consequence of a severe attack of pleurisy on the right side with effusion. At that time large doses of iodide of potassium with digitalis were used with benefit to the complication, but with no marked good result upon the aneurismal symptoms. The injections did not appear to produce any irritation.

Death occurred suddenly from rupture of the sac. At the autopsy eight or ten pounds of coagulated blood were found in the right pleural sac. The rent was a large one. The aneurism was of the fusiform variety, commenced immediately above the aortic sinuses, and involved the whole of the ascending portion of the arch, and a small part of the transverse portion. He remarked that no effect of treatment was noticed upon the aneurism.

Dr. Post stated that fusiform aneurisms were, from their very nature, the most unfavorable for medical treatment, in consequence of the uninterrupted and strong current of blood through them. There was no

chance for the formation of a coagulum unless the opening between the artery and sac was small, as in sacculated varieties.

Dr. Briddon stated that Langenbach had reported two cases of cure of aneurisms of the extremities by injection of ergotine; in one upon the upper extremity one operation was necessary. These results were not, however, substantiated by autopsical examinations. Langenbach's theory was based upon the well-known action of ergot upon the unstriped muscular fibre. If such a theory were correct, he should expect to find some marked result in a sac completely surrounded by these fibres.

Dr. Van Geison asked if the pulse was lower after each injection?

Dr. Briddon answered that such was not noticed to be the fact. In answer to a question from Dr. Hutchison, he stated that the injections were administered over the tumor.

DRY AMPUTATION—SENILE GANGRENE, ETC.

Dr. Sayre presented a portion of the popliteal artery removed from a very old colored woman, whose leg was amputated at the knee-joint for gangrena senilis of the right foot and ankle. The amputation proved to be a perfectly dry one in consequence of the plugging of the main artery immediately above the section. After the removal of the plug the artery was secured in the usual way. One week after the operation the patient was doing well.

Dr. Newman remarked that the dry amputation, being the result of a plug, gave a much more favorable prognosis to the case than if that condition was due to a disease of the arterial coats. In this connection he referred to a dry amputation in which such a condition of things existed, and death resulted in a few days after the removal of the limb, from an extension of the gangrene in the stump.

Stated Meeting, Dec. 14, 1870.

BACONY LIVER.

Dr. A. L. Loomis, Vice-President, in the Chair.

Dr. Rogers exhibited a specimen of liver which resembled bacon in appearance. It was removed from a man who had died of phthisis. He believed that the morbid condition of the organ was due to an albuminoid degeneration.

CYSTIC TUMOR OF BREAST.

Dr. Sayre presented a tumor which he had removed from the left breast of a lady thirty-four years of age. She first presented herself about ten days before the operation. There was then a small tumor about two inches from the nipple, very hard and exceedingly painful. It had all the feeling of scirrhus, although there was no retraction of the nipple. The diagnosis was not positive, but the suspicions were firm enough to warrant an immediate operation. Dr. Hamilton also saw the case, and, although he was not sure of the nature of the disease, advised an amputation. The operation was accordingly performed Dec. 11. After removal the tumor was found to be simply a very firm and distended cyst, the size of a hen's egg, having nevertheless the exact feel of a scirrhus. There were a number of smaller cysts scattered throughout the breasts, all of the same character.

RESECTION OF CERVIX FEMORIS.

Dr. Sayre exhibited also a lad upon whom he had performed exsection of the head, neck, and trochanter major of femur five years ago. The limb was half an inch shorter than its fellow, but was equally well developed, and with the exception of a limited fibrous anchylosis, was as useful. The patient, however, could walk well, and even run with ease. He had been admitted to Bellevue, and after the operation had been performed it was found by the authorities that he was not a fit subject for treatment, and was hurried to his home in the country during a snow-storm, there being only opportunity for the application of the wire breeches. His mother, after their arrival home, took sole charge of him. The good use of the limb, even under such circumstances, was due, in his opinion, to leaving the periosteum intact. The wound had been stuffed with oakum simply.

FATTY DEGENERATION OF PLACENTA.

Dr. Le Baron Hart, presented a specimen of extensive fatty degeneration of the placenta, with the following history:—The patient was a lady, married ten or twelve years. She had two healthy children at full term, but during her third pregnancy she strained herself very severely. An attack of metritis followed, and then a miscarriage at three and a half months. Since then, six or seven years ago, she has had ten other miscarriages, generally between the third and fifth months. In that connection he exhibited another placenta, the subject of slight fatty degeneration, discharged at full term by a woman married seven years, who had had several miscarriages. After the last abortion she had been placed under treatment for metritis and ulcerated cervix, and was completely cured. Soon after this she became pregnant, and was delivered of a healthy full-grown child, since which she has had the second, to which the placenta exhibited belonged. He was assisted in the microscopical examination of both specimens by Prof. Jacobi, who agreed in the opinion that the causes for the miscarriages were explained respectively by the lesions discovered.

CALCULUS IN THE NEGRO.

Dr. Mason exhibited a calculus which he had removed by operation from the bladder of a colored man, aged sixty-four. The specimen was interesting on account of its rarity in a negro, and as being the first of the sort met with in the Colored Home for a period of thirty years.

DIVERTICULA OF BLADDER, ETC.

Dr. Hinton presented the bladder, left kidney, and spleen, removed from a man aged sixty-eight, who had been under his observation for the past five or six years. He had difficulty in passing his water during the most of that period. He was obliged to urinate very frequently, and generally took a long time to accomplish the act. Dr. H. was called to him November 30, and found that he had not passed water, notwithstanding frequent attempts so to do, for ten or twelve hours. The day before he had some œdema of the lids, and this œdema had in that time extended to the arms and lower extremities. On examination a solid tumor was discovered in the right iliac fossa, about eight inches long by four in width. This swelling, the patient stated, had existed for two or three years. An attempt was made to relieve him by the catheter, but failed, notwithstanding the instrument was passed its full length. On withdrawing it its eye was filled with blood, which circumstance seemed to be explained by a granular condition of the urethra. Dr. H. was satisfied that the instrument, because its point was fixed, did not enter the bladder. Another attempt was made to guide the point of the instrument by means of the finger in the rectum. This manœuvre likewise failed. No prostate could be felt, and it occurred to the doctor that the bladder had been drawn high up by the ad-

hesions to the tumor. After a while the patient passed six or eight ounces of his own accord. His dropsy increased after that, but as his bowels acted promptly to hydragogues no further attempt was made to relieve him by catheterism. He was quite comfortable, passing small quantities of water at a time, until the evening of the 6th inst., when he was seized with hiccough, intense pain in his bladder, and great smarting on urination. An anodyne was administered, and the patient was advised to have warm fomentations applied, and to sit over hot water. That night he was seized with a convulsion and died.

The autopsy was made the afternoon following. Everything being flaccid, the catheter was passed without difficulty, and a pint and a half of urine was drawn off. The bladder was found bound down by adhesions, and communicating with its cavity were five good-sized diverticula, which made collectively the tumor in the iliac region. The prostate was much enlarged and drawn out of reach by the adhesions. The left kidney was sacculated, its pelvis being thirteen or fourteen times its normal size. The corresponding ureter was also much enlarged. From the lower part of this kidney there came what appeared to be a second ureter, but no thorough examination had been made to establish the point. The spleen had a dense capsule, had a pultaceous pulp, and was subject to calcareous degeneration. The bladder held just two quarts of fluid.

Dr. Jacobs believed that the diverticula were due to localized inflammations weakening the coats at those points, and causing them to dilate in the subsequent efforts to void the urine.

Dr. Hinton remarked that this was possible, and the specimen was referred to the Committee on Microscopy that the question might be settled.

MISCELLANEOUS SPECIMENS.

Dr. Finnell presented several specimens. The first consisted of a portion of the lungs, the uterus, and heart, taken from the body of a colored woman, aged thirty-five, who died in a hallway from acute tuberculosis. The aortic valves were thickened and insufficient, the lungs were studded with tubercle; but, strange to say, notwithstanding she was a negress, the uterus was free from fibrous growths. The second specimen was an extensive epithelioma, which, commencing at the left angle of the mouth, involved the larger portion of the upper lip in continuity. It was removed by operation at St. Vincent's Hospital. A third specimen was an axillary tumor, supposed to be an enlarged gland, removed at St. Vincent's Hospital from a female aged twenty-two. A fourth specimen was a fatty liver, from an intemperate female, showing localized fatty deposits in its substance.

The fifth and last specimen consisted of the kidneys and portion of the uterus, removed from the body of a woman aged 49, who, notwithstanding the existence of carcinoma uteri, had been treated by five different physicians for phthisis. The kidney was the seat of cystic degeneration, and the uterus was extensively involved in cancerous disease, as well as the contiguous parts. The point of interest bore upon the question of diagnosis and skill in auscultation, the lungs being perfectly healthy! Another point was interesting in this connection, and that was that two of the physicians were members of the Society.

CANCER OF FIBULA.

Dr. Bradley presented the foot and portion of the leg, removed by amputation from a lad fifteen years of age, who, a year ago last August, fell over a croquet wicket and injured his fibula. Almost immediately after he was seized with severe pain at the point particularly injured, three inches above the external malleolus. This condition of things continued at intervals for months, not, however, confining him to the house. The family physician advised a free and deep incision, which was objected to, and not really done until the following June, by Dr. Bradley. He found, on cutting down upon the part, diseased bone, and removed the same, giving directions that the patient should go to the country and keep the wound open until autumn. In the course of the summer Dr. Bradley was sent for, and found a semi-solid, fluctuating, and malignant-looking tumor, the size of a man's fist, in the situation of the operation. In the second week in September he made a V-shaped incision over the part, and removed a handful or more of broken down necrotic tissue. He scraped the bone in the vicinity and discovered a united transverse fracture of the fibula. It was impossible, on account of the hemorrhage and prostration of the patient, to remove all the dead bone, and a portion was accordingly left behind the tendo-achillis. The wound filled up until it was nearly closed, when a fungoid mass commenced to show itself in its bed. In consultation with Dr. J. R. Wood the mass was decided to be cancerous, and amputation being advised was accordingly performed. The patient by last accounts was doing nicely. There was no hereditary predisposition to cancerous disease, unless it be allowed that the great-grandmother, on the father's side, had cancer of the breast, and lived to be eighty-six years of age.

AMPUTATION OF BREAST, ETC.

Dr. Howard presented the right breast of a female, aged 45, which he had amputated for malignant disease. In this instance, although the disease was otherwise well pronounced, there was no retraction of the nipple. The wound healed almost entirely by the first intention. He merely exhibited the specimen for the sake of adding it to the experience of others in determining the best method of treatment; and in this connection he remarked that he had removed two breasts for scirrhus, one one year, and the other two years ago, neither, up to the present, showing any tendency to a return of the disease.

GALL STONES.

Dr. Freeman presented a ruptured gall-bladder containing a single biliary calculus. The case was interesting to him, as during its progress it presented no symptoms indicative of the true character of the disease. There was no jaundice from first to last. The patient was a lawyer, forty-five years of age, whom he was called to see on the 27th of last month, suffering from what appeared to be a congestive chill, with a pulse of but 40. The day before he had eaten pretty heartily of fresh fish, which he thought had disagreed with him. He complained of severe distress, and had vomited considerably. In spite of stimuli, reaction was not fully established until the following day, when the pain in the stomach became more severe and seemed to centre in the right hypochondriac region. The pulse then ran up to 120. This continued with spasmodic pain for three or four days; and early in the morning of December 1, the pain being more severe than usual, it was relieved by a hypodermic injection of morphine. There was not much pain on pressure, and from the absence of all symptoms referable to the liver, renal colic was diagnosticated. The day following delirium appeared, and death occurred within twenty-four hours. He was seen in consultation by Dr. Corey; but there was an obscurity connected with the diagnosis until the autopsy was held.

On opening the peritoneal cavity there were found

evidences of local peritonitis in the neighborhood of the gall-bladder, while the recto-vesical sac contained two or three ounces of pus inclosed in a croupous membrane. The peritonitis was due to a rupture of the gall-bladder. There was no abdominal distension at any time.

AMPUTATION OF BREAST.

DR. LITTLE presented three specimens. The first was a breast, removed from a lady patient at Saint Luke's on the 28th of last Nov. She was twenty-five years of age, and for the past two years had noticed a tumor in the right breast near the nipple. There was very little, if any pain. The tumor gradually enlarged, and for the past few months she had been under the care of Dr. Burral, who had been treating her with carbolic acid. On examination the breast presented the ordinary appearances of scirrhus. After the amputation of the organ it was found to contain two distinct tumors, one benign and the other malignant. Dr. Delafield had examined the specimen, and would report upon the same.

REMOVAL OF TESTICLES.

The second specimen was a tumor of the testicle, removed from a patient thirty years of age, who injured his testicle six or seven years ago. Some inflammation and pain followed, but soon passed off. He did not notice any inconvenience until three years ago, when the left testicle began to enlarge, producing in time such severe dragging pains as to necessitate anodynes for relief. On admission the affected testicle was the size of the double fist, and presented very much the appearance of a hydrocele. The lower portion was hard and opaque, the upper soft, fluctuating, and translucent. The operation was performed in the usual manner. Specimen examined by Dr. Delafield.

The third specimen was also a testicle, removed Nov. 29th. This patient was sent to the hospital by Dr. Caro. Six months ago an injury was inflicted upon testicle by rowing, which caused a transient swelling and pain. Three months ago the pain recurred, attended with swelling and suppuration in the most dependent portion. This latter portion discharged itself, and a fungous mass protruded, giving the appearance of a scrofulous testicle. This was also examined microscopically by Dr. Delafield.

DR. LITTLE related the history of an operation of removal of two small tumors from underneath the sterno-cleido-mastoid muscle of a female patient of St. Luke's Hospital. The growths were less than a year in making their appearance. One tumor was situated under the posterior edge of the sterno-cleido-mastoid, and the other under the anterior edge, beneath the angle of the jaw. The last involved the sheaths of the vessel, and could not be removed entire, notwithstanding a very careful dissection had been made. Subsequent to the operation erysipelas developed itself, and the patient died thirty-six hours after the operation. Previous to the operation, although the woman appeared in good health, directions were given to examine her urine, but they were unfortunately neglected. When the urine was drawn off by catheter during the coma, it was found to be albuminous, and to contain casts. This condition of things, in all probability, explained her death.

CANCER AND ADENOID TUMORS IN SAME BREAST.

DR. DELAFIELD remarked that the first specimen of Dr. Little's tumors of the breast was one of considerable interest. The upper tumor connected with the nipple was an example of cancer, but different from the ordinary form. It was composed of a number of small lobules, separated by dense septa apparently formed of fibrous tissue. The lobules were composed of alveoli filled with cells. The alveoli in some of the lobules were not merely round or oval, as usually seen, but they presented somewhat the appearance of long canals filled with cells. Sometimes these lobules were so narrow as to contain two or three cells abreast, while others were very much broader. The lower tumor is composed entirely of a dense stroma of fibrous tissue, and imbedded in it at moderate distances are granular follicles resembling those of the normal mammary gland. Then we find one or two small nodules, which have the same composition as the cancerous tumors, proving that the adenoid tumor has become infected with the cancerous degeneration of the first. The occurrence of these two forms of tumor in the same breast, although rare, has been observed by others; but Dr. Delafield believed that it was very rare, when they do occur, for the glandular tumors to become the seat of any cancerous degeneration.

The second specimen of Dr. Little, the first testicle, was merely an example of true cancer, and only interesting as to the length of time it took in growing.

In the third specimen the testis and epididymis are enlarged and altered, and both present the same changes. The albuginea is quite dense by a deposit of white fibrous tissue, which extends inwards in the substance of the epididymis and testis. These white bands consist of white fibrous tissue and cells. If it were not for the fungoid protrusion the microscopical appearances would resemble more a syphilitic inflammation than anything else.

The fourth specimen spoken of by Dr. Little was merely of interest as regards the apparent idiopathic development of epithelial cancer in the gland, although this assertion could not be positive, as other parts of the body, *e.g.*, the larynx and trachea, had not been examined.

CATARRHAL PNEUMONIA.

DR. LEWIS SMITH presented the lungs of an infant that died at the age of four and a half months. The patient had for some time been subject to diarrhœa from entero-colitis, and had been in an emaciated state. About three weeks before its death it had a slight attack of bronchitis, but no marked acceleration of the respiration, and no marked change in the condition until four hours before its death, when it was found suddenly sinking. On making the post-mortem examination a moderate amount of bronchial inflammation was found, the chief point of interest being the solidification in the posterior portion of the lower and upper lobe of right lung, and a very small amount of the same kind of solidification in the posterior portion of the left lobe, it being limited to small nodules some scarcely larger than a pea. He believed the pneumonia to be catarrhal in character, and remarkable in connection with the latency of the symptoms during life. Referred to Committee on Microscopy.

A second specimen was an enlarged heart and atheromatous aorta, removed from a debauchee who died of delirium tremens.

WHITE SOFTENING OF BRAIN.

A third specimen was one of white softening of left hemisphere of brain, removed from a hemiplegic female patient of Charity Hospital. This condition was supposed to be the result of an embolus, as branches of the middle cerebral artery were found closed from atheroma. The examination could not be made with a view of determining the exact situation of the plug. The heart was in nearly a normal state, but there was

a slight atheromatous deposit in the ascending portion of the aorta.

Dr. Fleet Speir, of Brooklyn, presented some specimens of arteries closed by means of a new instrument which he had devised.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Dec. 15, 1870.

Dr. H. D. Bulkley, President, in the Chair.

DISCUSSION ON DR. THOMSON'S PAPER. (SEE PAGE 531.)

Dr. John C. Peters: I have been very much interested in the tone of argument pursued by Dr. Thomson, as it is comparatively, or almost completely, a new one, and one which I am very slightly prepared to follow.

I regard the position which he takes about the classification of remedies according to the time required for their operation, as important and suggestive; and it is one which is now receiving timely corroboration in the labors in Analytical Pathology of Dr. Moxon, Physician and Pathologist to Guy's Hospital. [See *Medical Times and Gazette*, July 1st to December 1st.]

Dr. M. traces all disease not merely into the tissues, but into the *elements* of the tissues, which he divides into three great groups, viz.: 1st, The *cell-tissues*, or those made up of cells only, with nothing between them; 2d, The *intercellular* tissues, or those composed of cells, with an important quantity of material, or parenchyma, between them; and, 3d, The *tubular* elements, or those in which the original cells are prolonged or united into long tubes in which peculiar contents are found.

The principal cell-tissue elements are the *epithelium* blood-cells, fat-cells, cells of the secretory glands, cells of the blood-forming glands, and muscle-cells. All these are formed very rapidly in health; they multiply or proliferate quickly; then degenerate and as rapidly pass away. The majority of acute diseases are seated in them; thus, a very little irritation of the epithelial layer of the mucous membrane will produce an over-rapid production of epithelial cells, which loosen, fall off, and are succeeded by others, which are not perfectly formed, and do not retain their hold on the mucous surface, but slip away in the mucus, producing common catarrh, leucorrhœa, mucous diarrhœa, &c., &c.

When this quick or acute multiplication of elements occurs on a free surface, its effects are comparatively unimportant, because the products are able to escape; and when the irritation is allayed, or has passed off, healthy cells are reproduced, and the restoration is complete.

But when this multiplication or proliferation of epithelial cells occurs in glandular tissues, the consequences are rather more serious and tedious; the gland-tubes or follicles become choked up with epithelium, as in desquamative or epithelial nephritis or acute albuminuria; and in obstructive, or catarrhal, or epithelial hepatitis, or jaundice, from acute catarrh of the gall-ducts; and in acute gastric catarrh from choking up of the long, tubular glands of the stomach with ill-formed epithelial cells, &c.

Again, the blood-glands are very prone to simple multiplication of their elements. Thus the spleen is often actively engaged in making blood-corpuscles, and at other times equally actively engaged in breaking down a redundancy of them, and returning these elements to the circulation. The lymphatic glands often swell quickly from inflammatory irritation, brought to them by a lymph stream coming from an inflamed part, and as quickly subside; just as the mesenteric glands swell and their cell products become more numerous and pass on in the chyle stream, and so to the blood, where they produce a leucocytosis and a little fever. So the glands behind the bronchia swell up, in common pneumonia, to a large size. Still they do not suppurate, but quickly subside when the inflammation passes away. All these hypertrophic increases are generally of a transient character, corresponding to the temporary duration of the several cellular elements. If the normal nutrition of these cells includes their decay as well as their reproduction, and if this acute disease is merely an over-activity of their normal nutrition, then we should expect to find this overgrowth to be short-lived, so that when the cause of the augmentation is removed, the supernumerary elements decay and pass away, and the part returns to its normal volume.

The duration of all these disorders, and many other catarrhal, rheumatic, and febrile affections, is like the normal durations of the cellular elements, viz.: short-lived.

But the case is entirely different when the *intercellular elements* are primarily or secondarily involved. These are cartilage, fibro-cartilage, periosteum, membrane-stoma, submucous tissue, tendon-tissue, amorphous connective tissue, osseous tissue, and yellow elastic tissue. The great normal peculiarity of these tissues is, that they are slowly built up, and still more slowly removed; their changes are sluggish, for they are made to remain as they are, and maintain themselves in a more or less permanent condition.

They are made up of fully formed elements, and the causes which can give rise to a sudden increase or diminution in their quantity require to be more severe, and the causes of their slow increase must be prolonged.

If the new intercellular elements attain organization they remain obstinately and permanently.

If the increase of the intercellular elements is hastily excited, and in great quantity, an effect is produced which partakes of some of the characters of what is called "malignancy."

Thus, Mr. President, I have given you a short outline of Dr. Moxon's views. They are new, interesting, and suggestive; and although some of them are not quite satisfactory, I believe the majority of them are true, or at the least very plausible.

In the more transient forms of disease simple hygienic measures, or a timely diuretic, sedative, or cathartic, or diaphoretic, or emetic, depressant or expectorant, may be all that is necessary. But in the more obstinate varieties, long courses of alteratives, liquefacients, resolvents, nutrients, or tonics, will be required.

And here let me say a few words about one class of remedies touched upon by Dr. Thomson, viz., *Alteratives*. I believe that every remedy is, in some sense, an alterative; it must change or alter the action of the disease in some way in order to make any impression upon it. If it did not act alteratively, or differently from the action of the disease, it would only add so much more to it, *i.e.*, increase or aggravate it. In these simple truisms is contained the completest refutation of the whole of that specious system called Homœopathy. Again, the remedy must not only act differently from the disease, *i.e.*, alter, change, or modify it in the direction of health, but it must be given in doses large enough to produce these necessary alterations or changes. In this latter truism is contained a complete refutation of the whole absurd doctrine of infinitesimal doses.

Dr. E. R. Peaslee stated that it had often been remarked that the science of medicine goes around and

around in a circle; but every time it goes around it is on a higher plane than before, because we have advanced in pathology and diagnosis.

He hails with great satisfaction the advancement in therapeutics, and we must continue to go around and around in the circle until the right point is reached.

In regard to all the points presented by Dr. Thomson in his paper, he could not fully accept them, but accepts the paper in a general way, as the author is on the right track.

STATED MEETING, JANUARY 19, 1871.

DR. EDMUND R. PEASLEE, PRESIDENT, in the Chair.

THE retiring President, DR. HENRY D. BULKLEY, made the following introductory remarks:—

Fellow Members of the Academy:

Gentlemen—The vote just passed severs the last link of the pleasant chain which has bound me for the past two years to the position with which you have honored me—two years which, I trust, have not been without interest to us personally, nor without value in the promotion of the welfare of the Academy, whose interests we all have at heart,—years which have not been without labor, nor without responsibility on my part, both of which, however, have been lightened by the sympathy ever manifested in my endeavors to discharge satisfactorily the duties which have devolved upon me, and by the leniency shown in my shortcomings of duty, and the courtesy always manifested in my intercourse with you all, for which accept my kind thanks.

Thanks also for your response to the appeal which I made when I took the chair, the *key-note* of which you will perhaps recollect was *work*, without which nothing succeeds in any undertaking. To this response we owe the valuable papers and discussions to which we have listened, and by which we have been so instructed during the past two years, and the increased attendance which has shown that such labors have been appreciated.

Our register has shown no want of a quorum during the past two years, and no card has been issued during this period without announcement of work for the evening.

The report of our faithful and respected Treasurer exhibits a flourishing state of our finances.

Good feeling has everywhere prevailed, and nothing has occurred to disturb the harmony of feeling or of action.

Death has visited us with a sparing hand, only six of our number having been removed from among us. Alas! that my parting words have to be mingled with those of condolence on the departure of the lamented and faithful Bibbins, who has just been called away in the midst of his years and of his usefulness, whom we shall all miss as a tried and trusty officer of the Academy, and a most active and reliable fellow-laborer; a man of unswerving integrity, true to every trust, and the type of a Christian physician.

The accession of new names to our list of members has continued to increase our ranks, and our losses should stimulate us to run more diligently the race set before us while the opportunity is still spared us.

While I congratulate you upon what has been accomplished *within* our walls, I am able to add that the labors of those of our number who are charged with providing us with a local habitation are making successful progress. I need not dwell on the great importance to us, both as an Academy and as a profession in our city, of having a place which we can call our *home*, nor appeal to you again for sympathy and substantial aid in this movement.

It is a matter of regret that the sudden illness of the talented member who was to have favored us with an anniversary address the past year, deprived us of this privilege, and disappointed us in not being able to enjoy another production of this kind, worthy to be placed by the side of the one to which we listened with so much interest on the previous occasion of this nature.

I could have wished, gentlemen, that my appeal in behalf of filling up the ranks of the different Sections of the Academy had prompted to better results in this direction; that of Obstetrics still remaining the only active one of these organizations—an activity which has been rewarded by success, and for which it is entitled to our thanks. I trust that the renewed and increased efforts of my worthy successor will meet a more ready response.

While taking leave of the Academy, and of you individually, gentlemen, before proceeding to introduce my successor, permit me to congratulate you on the choice which you have made, by which you have honored the Academy in honoring him, and in whom you have a pledge of increased prosperity and progress in honor and usefulness. For such a result you have my sincere wishes, and will have my hearty co-operation.

All that remains for me before retiring from the platform, is to welcome and introduce to you the man of your choice as your next President.

To the President elect:

I have already congratulated the Academy, my respected Sir, on the honor it has done itself in the choice of you as my successor, and I now take pleasure in congratulating you on being the recipient of this honor.

It is a position, as you are aware, of *labor* as well as of *honor*, and I know that you accept the former with the latter. The record of your life bears testimony to your appreciation of the importance of *work;* and the eminence you have reached in both literature and science is an illustration of the success with which this is sure to be rewarded. In you, therefore, we have secured what the Academy wants, and always will want, a working man for its President. Allow me, then, to assure you of my best wishes for your success in this new post of honor and usefulness.

In conformity with the custom of my predecessors, I hand you a copy of the Constitution and By-Laws of the Academy, confident that you will interpret them wisely, and enforce them with discretion and impartiality.

Gentlemen of the Academy,—I take pleasure in introducing to you your President Elect, Dr. Edmund R. Peaslee.

The President Elect, DR. EDMUND R. PEASLEE, then delivered an interesting Inaugural Address. After thanking his associates for their kindness in selecting him as their presiding officer, and alluding to the honors conferred upon him in times past, namely, the Presidencies of the two other prominent medical societies of this city, mention was made of the sphere of action of the Academy in comparison with the other medical organizations. Each has its own sphere of action; but the distinguishing feature of this Society is, that it has a wider range, attention being paid to medical education and public health. He also stated that the Academy had a right to demand help from all its members. Following the review of the discoveries of Harvey and others down to the present time, the speaker urged the claims of medical science on medical men, and said that

the members must not forget that science has claims upon the old and young. The labors of others must be encouraged as well as their own, and medical science is advanced in *three* ways:—

First. By ascertaining and correcting existing errors.

Second. Much may be gained by collecting statistics, and publishing compendiums, monographs, etc.

Third. By making new discoveries. He would encourage the habit of thinking for themselves, and properly correcting the errors of others. Without independent thought on the part of Harvey the discovery of the circulation of the blood would have remained undiscovered.

In dwelling upon the *third* way to advance medical science, the Fellows were reminded that those who expect to be discoverers must be particular in searching out all that others have achieved, else their labors might be thrown away. If medical men wish to make additions to science they must have a definite point in view; but all honor to those who stumble upon a fact, even though something else was sought for. Three things are required when making discoveries: *First*, a higher faith as a moral element; *second*, perseverance; and *third*, courage and theory. It has rarely been the case that the true theory has been suggested at first when making a discovery. All methods imply labor. Those under forty years of age have done more than older men in the profession, and many discoveries made by young men were mentioned. The question was asked, Who have the leisure but young men? But the older men should not be excused on the ground of want of time, as many have achieved honors in their old age. Dr. Samuel Johnson learned Dutch at the age of seventy-one. Theophrastus commenced his "Characters of Men" at ninety. Young wrote his "Night Thoughts" at seventy. Age, then, does not detract from advancement in medical science, as Cullen was a splendid lecturer at eighty-three, and Hufeland at eighty. Dr. James Jackson, of Boston, was the pride of that city at a great age; and Drs. Nott, Clymer, and Post of our own city are noble examples.

In closing his remarks, he stated that want of time for advancing medical science is no excuse, and mentioned the fact that John Hunter always arose before daylight to advance himself. John Mason Good's celebrated translation was done in the streets of London while making calls on his patients; and Roux performed the operation of cataract upon six thousand cases, and yet had time to translate Latin, German, and other works.

In regard to the advancement of medical science, he contended that it was due to the regular profession alone, and that our science reposes upon the same basis that it has for two thousand years.

Finally, the want of a home for the meetings of the Academy was spoken of, and the President earnestly hoped that a suitable and noble building would be erected at no distant day, which would be an ornament to our city and a source of pride to the medical profession, around which all the societies could revolve.

The announcement was made that Dr. Gouverneur M. Smith will read, February 2d, a paper on "Diabetes Mellitus."

On motion of Dr. Roberts, the thanks of the Academy were tendered to Dr. H. D. Bulkley, the retiring President, and Dr. E. H. Janes, the late Secretary, for their untiring energy and ability in discharging the duties of their offices.

The Academy then adjourned, out of respect to the late William B. Bibbins, M.D., a prominent Fellow and Trustee.

Correspondence.

PSYCHOLOGY IN OUR MEDICAL SCHOOLS.

To the Editor of the Medical Record.

Sir—It is well known that many of our medical schools have recently added a professor of mental diseases to their list of teachers, and we have noticed the adoption of a resolution by the American Medical Association, at its last meeting, favoring the establishment of chairs of psychology. As we believe, however, that this addition of insanity to the curriculum of medical studies has been rather urged than discussed hitherto, a few words in regard to it may not be amiss.

Let us begin by declaring that no one is more ready than ourselves to welcome the current change in medical theory, by which the nervous functions are made of the first importance in our interpretation of disease. It is not unlikely that this change may at length bring about a return to the excessive use of metaphysical terms and abstract reasoning in medical discussions. But a diversion from the chemical and mechanical theories which have so long occupied the entire field of medical research is much to be desired, and the practical tendency must be to lessen the evils of experimental drugging and polypharmacy, which are now so rife in the profession.

If we are not mistaken, however, it is not the increased importance given to the nervous system in our studies of disease that has been the chief reason for the creation of these chairs of mental medicine. The new professorships are rather the fruit of an increased interest in the subject of insanity, as a disease for study and treatment. Now, we believe this interest to be in great part factitious, and unpromising of useful results to science or to the public.

It need scarcely be said how exceedingly vague is the use of the term insanity in popular language, or that it has hardly any more determinate sense in general literature. A single conception, that of a loss, more or less complete, of freedom of the will, makes up almost the entire idea of insanity, both in ignorant and in cultivated minds. It is curious to remark, by the way, how little this universal notion will bear to be examined. Surely, it is by the manifest freedom of his will, from known laws of thought and feeling, that we judge a man to be not sane, but insane. And on the other hand, a man is deemed sane not at all because his will appears self-determined, but because it is plainly governed by motives arising in accordance with fixed laws of the human mind.

The true legal idea of insanity is, no doubt, that of a certain degree of disorder or inability of the knowing faculties, determined in each case by long-established rules of law. But, in fact, the insanity of our courts is no less indefinite and illusive than that of popular language. We need only refer to the cases of Sickles, Huntington, Mary Harris, Cole, and McFarland, to prove that, in the legal medicine of to-day, insanity is too generally a fiction of the counsel and the experts, by which a jury may return the verdict "served him right," under the euphemism of "not guilty."

But what is the meaning of insanity in medicine? The greatest fallacies have, purposely or ignorantly, been offered in answer to this question. It is common to insist, at the outset, that the criterion of insanity is disease. But this is a futile attempt to substitute a positive for a negative conception. However much we may be accustomed to think of disease as a

mysterious but real entity, the word means nothing more than disorder. Again, great stress is laid upon the classification of insanity as "a form" of disease. But this is merely conventional, and has no warrant in medical philosophy. A proper form of disease must include a definite series of symptoms appearing either together or in a certain order. Insanity, however, is only a single symptom, and is not, in a strict sense, a symptom at all. Furthermore, it has been declared to be a fundamental doctrine in medical science that insanity is a bodily disease. Now, to say that mental disease is bodily disease is clearly absurd. Whatever may be possible in abstract thought, the distinction in terms between body and mind cannot be dropped for a moment. But the truth is, that in every formal treatise on insanity the mental manifestations are alone included in the definition. One bodily symptom, fever, is sometimes referred to in defining the disorder, but only to require that it shall *not* appear. We may notice that Griesinger, the latest authority, defines it concisely as "chronic delirium."

Of this technical insanity, it is admitted that its causes are in the last degree complex and remote. Its pathology must, of course, always remain a mystery until we can explain the physiological connection of mind and brain. Its therapeutics is confessedly almost a blank. Medically to "minister to a mind diseased" is still an undiscovered art. We are told, indeed, in the reports of our insane asylums, that insanity is very curable in its acute stages. But in the mass of its subjects no acute stage has ever been present. It has been chronic in its invasion as in its duration. This is, in fact, characteristic of the disorder, as its definition of "chronic delirium" implies. Most of the so-called cures of insanity are in cases of temporary delirium, from fevers, alcoholism, or some other form of blood poisoning, or else are only the intermissions between successive paroxysms. That insanity is really among the least curable of disorders we have only too abundant proof. Of the 25,000 insane in England, 90 per cent. are declared to be without even the hope of recovery; and there is reason to believe that the proportion of incurables is nearly the same in all countries.

But we ought never to lose sight of the fact that, after all, insanity is a purely abstract term, and in no wise represents a conception of natural science. Nothing can be more unwarranted than the use made by psychologists of scientific methods in their inquiries, and the assumption of scientific positiveness for their conclusions. It would not be easy to point to anything more entirely fallacious than, for example, the carefully-elaborated statistics of insanity which fill the pages of many asylum-reports. And one should also remember that insanity is no more a fact of logical demonstration than of scientific observation. It is not an inference which may be derived from given premises by logical steps, but a judgment reached by the mind instinctively, and without conscious reasoning. These considerations explain why both the most accurate observers and the acutest reasoners are so generally at fault in giving an account of their opinions respecting insanity before the courts. The fact is, that insanity is of far greater import as a practical problem of social life than as a scientific, a metaphysical, or even a medical question.

In conclusion, it is not strange that a subject which has been so overlaid with unmeaning facts and false reasoning should be uninteresting, and even unintelligible, to medical students. The lectures upon psychology, which have been begun at various medical schools in Great Britain and on the continent, have nearly all been soon discontinued. We would suggest that the entire field of pure mental disorder, beyond the limit of simple delirium, may well be left in this country to the study of minds specially constituted, and for other hours than the few which are given to the preparation for a general practice. Meanwhile, let us not forget to recommend the attentive study of nervous diseases to every advanced student. They promise to be the source of the most brilliant triumphs which await medical science and art in the immediate future.

T.

New York, Oct. 1870.

VERATRUM VIRIDE IN PUERPERAL CONVULSIONS.

To the Editor of the Medical Record.

Sir—In reading the proceedings of the New York Pathological Society, I was much pleased to see that the use of the veratrum viride in puerperal convulsions was meeting with much favor. For the past five years I have used it in many cases with better results than from any other course which I had heretofore pursued.

But a few weeks ago I used it (not in such doses as were reported by Dr. Finnell to have been given by a homœopathist) in a case of eclampsia, where the consulting physician and myself could distinctly count the pulsations at one hundred and seventy per minute, and where no amelioration of symptoms could be obtained with the use of chloroform and the other ordinary remedies in use for this grave malady. I gave Squibb's Fluid Extract, beginning with five drops, and increasing the dose one drop once in two hours until a decided impression was made upon the heart's action. Seven drops at that interval were all that was required to sufficiently diminish the pulsations to bring about the desired result. Also I wish to say a word relative to the use of the same remedy in pneumonia.

For eight years past I can truly say that, with the exception of an occasional Dover's powder, I have quite exclusively relied upon the veratrum in the treatment of this disease.

Within the past year I have substituted the chloral hydrate for the Dover's powder, and find it answers a better purpose.

D. Colvin, M.D.

Clyde, N. Y., January, 1871.

Medical Items and News.

Medical Science in Paris during the Siege.—Dr. J. A. Fort, writing from Paris to Professor Pacini, of Florence, says that the Surgical Society attempted to resume its weekly meetings on November 7th. Seven members only were present. M. Boinet spoke of some cases of tetanus which he had observed among the wounded in the Palace de l'Industrie; he attributed the disease to cold—the wards being badly warmed. M. Giraldès had also seen some cases of tetanus in the Val-de-Grâce Hospital. Both these surgeons spoke in praise of chloral, the use of which had been followed by recovery in two-thirds of the cases. The amount given varied from eight to ten grammes in twenty-four hours; it was dissolved in simple syrup, and given in doses of a spoonful. The Academies of Medicine and of Science were also meeting, and were occupied in discussing the existing state of affairs. The session of the School of Medicine had commenced, and the professors had begun their lectures. Dr. Fort had commenced giving a course of surgical anatomy.

REMOVAL OF THE TONGUE.—Mr. MacGillivray, surgeon to the Bendigo Hospital, reports, in the *Australian Medical Journal* for October, 1870, the successful removal of the whole tongue for epithelioma.

DR. GEO. M. BEARD has been appointed Electro-Therapeutist to the Demilt Dispensary. The Trustees of that Institution have created a separate department of Electro-Therapeutics, and have supplied it with all the apparatus necessary for the treatment of medical or surgical diseases by electricity.

This is the first regular appointment of the kind in any large public institution in this country.

SKIN DISEASES IN VIENNA.—Professor Hebra states that from 1850 to 1860, 227,000 patients were admitted into the General Hospital of Vienna; out of these, 30,000 were cases of skin disease.

DR. WILLIAM B. BIBBINS, M.D., of this city, died of typhoid fever, Jan. 19, aged 47.

RESOLUTIONS ON THE DEATH OF DR. BIBBINS. — At an adjourned Stated Meeting of the New York Medico-Historical Society, held Saturday evening, January 21, 1871, the following resolutions were unanimously adopted:—

Resolved, That in the decease of our President, William Burr Bibbins, M.D., this Society, together with the Medical Profession, to whom he was widely known here and throughout the country, has sustained a loss which it will be difficult for time to repair.

Resolved, That his uncompromising integrity of character, sincere devotion to duty, unquestioning acceptance of responsibility, and unwavering charity for his associates, distinguished Dr. Bibbins in and out of the profession; and, with his cultivated intellect, correct judgment, and singleness of purpose, contributed largely to secure such confidence of the profession in the efforts of the Medico-Historical Society as has rewarded their labors in past years.

Resolved, That Dr. Bibbins was one whose pure and upright life, and matured convictions, inspired confidence in whatever he did and said, and commanded respect among all with whom he was associated; and that, inscribed on the tablet of memory, the words "Integer vitæ" convey in his case a meaning seldom exemplified.

Resolved, That in the faithful discharge of his duties to the sick, in his enthusiastic devotion to the advancement of medical science, and in his labors in benevolent and charitable associations, the example of Dr. Bibbins should be held in lasting remembrance, as that of a man who, as far as may be possible to the human and therefore erring, regulated his conduct to his fellows by a desire to do to others as he would that they should do to him.

Resolved, That a copy of these resolutions, signed by the officers of the Society, be sent to the family of the deceased, and to the medical journals published in this city.

A. E. M. PURDY, M.D.,
Vice-President.

JOHN GORDON FRAZER, M.D.,
Secretary.

At a joint and special meeting of the Medical Society of the County of New York, and of the New York Academy of Medicine, held in the Lecture Room of the Madison Square Presbyterian Church—Rev. Wm. Adams, D.D.— Jan. 19, 1871, Dr. Gouverneur M. Smith, Dr. Edmund R. Peaslee, and Dr. Abram Jacobi, were appointed a committee to prepare resolutions expressive of the feeling of these societies in relation to the decease of Dr. William B. Bibbins. The meeting then adjourned to attend the funeral in the adjoining church.

Whereas, an All-wise Providence has removed by death William B. Bibbins, M.D.;

Resolved, That in the decease of Dr. Bibbins, the members of the Medical Society of the County of New York, and the Fellows of the New York Academy of Medicine, are called upon to mourn the loss of one of their number who has been endeared to them by his devotion to the interests of the medical profession; by his efficiency as a Treasurer, as a Trustee, and in other offices; and by his conscientious discharge of duty, as clearly but modestly evinced in the Christian principle which guided his public and private life.

Resolved, That while thus recognizing his professional and executive ability and rectitude, his late associates also bear witness that he possessed those traits of character essentially designating a genial companion, a true friend.

Resolved, That in his varied and ardent labors to promote the welfare of the poor of this metropolis, he has left an example worthy of emulation and worthy of public recognition.

Resolved, That a copy of these resolutions be preserved in the archives of the societies; and also that a copy, signed by the President and Secretary of the joint meeting, be transmitted to his family, and published in the medical journals.

HENRY D. BULKLEY, M.D.,
Chairman.

DISTRICT MEDICAL SOCIETY OF CO. OF HUDSON (N. J.).—At the annual meeting of this Society, held December last, the following officers were elected for ensuing year:—*President*, Dr. B. A. Watson, Jersey City; *Vice-President*, David Benson, Hoboken; *Secretary*, J. H. Comfort, Hudson City; *Treasurer*, T. F. Morris, Jersey City; *Reporter*, S. R. Forman, Bergen.

NEW YORK ACADEMY OF MEDICINE.—The following officers were elected for the ensuing year:—*President*, Dr. Edmund R. Peaslee; *Vice-President*, Dr. Austin Flint, Sr.; *Recording Secretary*, Dr. W. T. White; *Corresponding Secretary*, Dr. John G. Adams; *Treasurer*, Dr. James O. Pond; *Trustee*, Dr. Alfred Underhill; *Committee on Admissions*, Dr. John H. Hinton; *Committee on Medical Ethics*, Dr. Gouverneur M. Smith; *Committee on Medical Education*, Dr. Alonzo Clark. Dr. Samuel Blume was elected by ballot a Resident Fellow. The President appointed Dr. Alfred C. Post as the biographer of the late Galen Carter, M.D.

NEW YORK PATHOLOGICAL SOCIETY.—The following officers have been elected for the ensuing year:—*President*, A. L. Loomis, M.D.; *Vice-President*, H. D. Noyes, M.D.; *Secretary*, Dr. George F. Shrady; *Treasurer*, Dr. John H. Hinton.

GUN-COTTON.—It is not generally known that the best method for making gun-cotton was invented by Dr. William H. Ellet, at one time Prof. of Chemistry in Columbia College, New York, and afterwards in the South Carolina College.

DR. R. J. O'SULLIVAN has been elected Consulting Physician to the Department of Diseases of the Chest of the Eastern Dispensary of this city. This office was created for him as a reward for twelve years of continuous services to the institution.

A DELAY IN THE APPEARANCE OF OUR NEXT NUMBER may be possible, in consequence of the time required to get the report of the State Medical Society prepared.

Medical Society of the State of New York.

SIXTY-FIFTH ANNIVERSARY.

First Day—Morning Session.

The Society met at 11 A.M. on Tuesday, February 7, 1871, in the Supervisors' Room, Albany.

The meeting was called to order by the President, Dr. S. Oakley Vanderpoel, of Albany, and the Rev. Dr. Clark opened with an appropriate prayer; after which the President delivered his inaugural address.

THE PRESIDENT'S INAUGURAL ADDRESS.

After speaking of the benefits of medical associations to the physician, he referred to the good influences which the regular publication of reports of societies had upon these bodies in particular and the profession at large. He recommended the repeal of the usage in regard to the non-publication of papers in medical journals before their appearance in the Transactions; also, the continuance of the work of medical registration; the cultivation of the study of mental diseases in the colleges; and the proper recognition by the society of the useful labors of gentlemen connected with the Surgeon-General's office; concluding with touching tributes to the memories of Sir J. Y. Simpson, of Edinburgh, an honorary member, and Drs. W. B. Bibbins, Geo. T. Elliot, and other members who had died during the past year.

MISCELLANEOUS BUSINESS.

Dr. Didama moved that the several subjects alluded to in the President's address be referred to appropriate committees.

The President announced the following committees:—

On Credentials—Drs. A. N. Bell, J. G. Govan, H. McNutt.

On Arrangements—Drs. Quackenbush, W. H. Bailey, J. V. Kendall.

On Business—Drs. W. C. Wey, A. Underhill, H. B. Whiton.

On Obituary Notices—Dr. Platt Williams, by Dr. Thos. Hun; J. H. Reynolds, by Dr. R. L. Allen; Charles Barrows, by J. C. Hutchinson; Edward Hall, by Dr. Cummings; W. B. Bibbins, by Dr. Ellsworth Eliot; George T. Elliot, by Fordyce Barker.

Dr. J. V. Cobb offered the following resolution:

Resolved, That the President appoint a Committee of three to extend an invitation to the Governor, and to such members of the Legislature as belong to the medical profession, to attend the meetings of the Society during its Session.

Drs. Cobb, Gray, and Bozeman were appointed on such Committee.

Committee on publication of papers, as suggested by the President—Drs. Hutchinson, Bacon, and Orton.

Committee on Psychology—Drs. Gray, Hyde, and Banks.

Committee on Microscopic labors in the office of the Surgeon-General—Drs. E. R. Hun, McFarlane, and Ward.

Dr. Burr offered the following:

Resolved, That the Committee on Credentials be and it is hereby directed to transcribe from the Register of this Society, the names of all Permanent Members and Delegates from County Societies, which may from time to time, during the sessions of this Society, be entered therein, as fast as such names shall be registered, for the use of the Secretary in calling the Ayes and Nays, or in taking any other vote which the Society may direct.

Carried.

THE PRESENTATION OF PAPERS.

Dr. Burr also read a paper entitled, "Laceration of Perinæum and Bladder, with introduction of pieces of wood, formation of calculi, and operation."

Dr. Sayre read a paper entitled, "Two cases of Luxation of the Elbow backward."

Dr. Quackenbush introduced Dr. McIlvaine and Dr. Reid of Ohio.

PUERPERAL ECLAMPSIA.

Dr. Jewett read a paper entitled, "Puerperal Convulsions." He took the ground that the eclampsia was caused by the presence of a certain poison in the blood which acted differently on different temperaments, and that the only remedy seemed to be to get rid of the same through the natural emunctories as quickly as possible. The bowels, being the most available, were generally preferred.

Dr. Quackenbush, in remarking on the paper, stated that the really grave cases of eclampsia were those in which labor had not fairly commenced when the attacks occurred. He did not think purges in this condition of things would avail much.

Dr. Jewett stated that in a rigid and contracted os he should, all other things being equal, abstract blood.

Dr. Kneeland believed that chloroform was the remedy in such cases,—an opinion concurred in by Dr. Quackenbush and other members.

Drs. Frazier and Sherman remarked upon the paper, detailing their experiences.

The following members were invited to seats: Drs. F. A. B. Lewis, Watertown; L. Griffin, Binghampton; R. H. Ward, Troy; G. H. Hubbard, Lansingburgh; J. L. La Moree, Grahamville; J. C. Herrick, Saratoga Co.; J. G. Porteus, Warren Co.; G. D. Van Vranken, Saratoga Co.; J. G. Johnson, Saratoga Co.; C. A. Robertson, Albany; E. M. Carmichael, Renn. Co.; W. B. Morgan, Albany; Walter Booth, Onondaga Co.; Stephen R. Millington; Henry March, Albany; Henry Lanning, Tompkins Co.

Dr. Granger, of Lawrenceville, Tioga Co., Penn., was introduced to the Society.

The Society then adjourned, to meet at Association Hall, at 3 p. m.

First Day.—Afternoon Session.

The Society met, pursuant to adjournment, in the Lecture Room of the Young Men's Christian Association, and was called to order by the President, Dr. Vanderpoel.

It was resolved to postpone the reading of the minutes till the morning of each day.

The President announced the following Nominating Committee:

District 1. J. G. Adams.
" 2. R. Loughran.
" 3. J. R. Boulware.
" 4. Francis Burdick.
" 5. Jno. P. Gray.
" 6. H. K. Bellows.
" 7. H. D. Didama.
" 8. J. F. Rochester.

PERMANENT MEMBERS FROM DIFFERENT DISTRICTS.

Concerning Permanent Members not from their own districts, Dr. Orton presented the following communication from the Broome Co. Medical Society:

"The following resolution was unanimously adopted at the Annual Meeting of the Broome Co. Medical Society, held in the City of Binghamton, Oct. 4, 1870:

Resolved, That, in the judgment of this Society, the annual election by the State Society of permanent members for the

several Senatorial Districts, is exclusively due to those physicians eligible, who are residents of the districts for which such election is made; and that to elect as permanent member of the State Society for one district, any person residing in another, is an infringement of the rights and privileges of those who are eligible for permanent membership in such district.

J. G. ORTON, *Secretary.*

On motion, laid on the table.

The Treasurer, DR. LANSING, read his Annual Report. Referred to Auditing Committee, composed of Drs. Sherman, Sanders, and Doolittle.

PRIZE ESSAYS.

DR. ROCHESTER, Chairman of Committee on Prize Essays, reported that the *Merritt H. Cash* prize was awarded to Dr. S. Fleet Speir, of Brooklyn, for a paper entitled, "A new method of arresting Surgical Hemorrhage by the Artery Constrictor."

The Corliss Prize Essay was awarded to Dr. Ghislani Durant, of New York.

DR. BAILEY, the Secretary, moved, that hereafter the names of the Presidents be printed in a separate column; and stated that as the result of his examinations he had found that this meeting should be the sixty-fifth instead of the sixty-fourth.

A CHARGE OF PLAGIARISM.

DR. SQUIBB presented the following preamble and resolutions:

Whereas, There appears in the published transactions of this Society for the year 1868, at page 142, *et seq.*, an article entitled, "Effects of the Meteorological Influences on Health, by Wm. Faulds Thoms, M.D., Surgeon to the Howard Hospital, Physician to the New York Dispensary, Surgeon to the Eastern Dispensary, etc." And

Whereas, This article is in large part copied word for word from Parkes's *Manual of Practical Hygiene*, 2d Eng. Ed., commencing at page 430, without credit given or marks of quotation used, and is therefore a plagiarism. Be it

Resolved, That this Society owes it to Dr. Parkes of London, as well as to itself, to apologize for their appropriation of his labor and language without credit.

Resolved, That a copy of this preamble and resolutions, authenticated by the signatures of the President and Secretary of the Society, be sent to Dr. Parkes of London.

Adopted.

URETHROCELE, CATARRH, AND ULCERATION OF FEMALE BLADDER.

DR. BOZEMAN, New York, read a paper entitled, Urethrocele, Catarrh, and Ulceration of the Female Bladder. He considered these several diseases from a common stand-point, regarding them as so many aspects of the same malady. He showed by the citation of typical cases that it is impossible, from the long chain of morbid results, for the shrewdest diagnostician to say where the disease of one structure ends and that of another begins.

Urethrocele, first pointed out by Sir Charles Mansfield Clarke in 1814, he said, had been almost completely overlooked from that time to the present moment by authors who have written special treatises on the diseases of women, both in this country and in Europe.

As causes of this disease, he enumerated mechanical violence from long pressure of the child's head in the inferior straits, and from the maladroit use of instruments in effecting delivery. Disproportion of the size of the male organ to that of the vagina, and too frequent coitus. Urethritis, whether of traumatic, gonorrhœal, or catarrhal origin, resulting in the formation of organic stricture as in the male. The last-named cause he considered extremely rare.

The "order of morbid changes" he regarded as follows: Eccentric hypertrophy of the muscular structure of the urethra—thickening of the walls with dilatation of its calibre. This results (from the unyielding triangular ligament in front) in distortion of the urethral canal and coarctation of its sides, from which there is no obstruction offered to the passage of a large elastic catheter with proper curve at any stage of the disease. Here the stream of urine encounters its first obstruction, when the force of the column in its passage is expended upon the walls of the urethra in the upper part of its course. The effect of this is further dilatation from mechanical pressure, resulting finally in the formation of a urinous tumor which carries down before it the adjacent vaginal wall, as usually seen between the nymphæ, filling up the ostium vaginæ. This tumor he calls urethrocele in contradistinction to cystocele, with which it is very often confounded.

The sequences of this primitive disease observe very much the same order as those seen in the male from stricture. First, retention and decomposition of the urine (only a few drops at first); irritation and congestion of the mucous lining, extending into the bladder under the influence of exacerbative causes; chronic cystitis; and finally, ulceration, when all the aspects of the morbid process from beginning to end are blended into one common malady.

The *treatment* is based upon surgical resources alone, as it is supposed that the disease has advanced to its several critical stages, and that the ordinary therapeutical appliances no longer promise permanent relief. For the urethrocele just before it merges into persistent vesical catarrh, tapping of the urethra through the vaginal wall at the most dependent point of the tumor is the procedure proposed. This gives a free outlet to the urine; and the hypertrophied urethra, being thus placed at rest, returns to its normal size and direction, in accordance with well-known physiological laws. When a healthy condition of the parts is re-established, the artificial aperture is closed up with the button suture. Should there be at the time of this operation a redundancy of tissue, either in the vagina or urethra, it is to be retrenched, the object in all cases being to straighten the urethra in its entire course and give to the urine a free and uninterrupted outlet.

When the urethrocele has become complicated with confirmed vesical catarrh and hypertrophy of the coats of the bladder, then an opening into the latter through the vesico-vaginal septum is required. The aperture here should be large, the size of a half dollar, and remain open until the general health is restored, and the urethra and bladder return to their normal anatomical characters.

The ulceration of the mucous coat of the bladder, the third evidence of the malady, is treated in the same way as last described, excepting that the aperture should be much larger and be kept open longer.

In the case of ulceration cited, Dr. Bozeman says three-fourths of the membrane had been destroyed at the time he cut into the bladder. The surface of the muscular coat, as far as the morbid process had extended, was completely bare; no dissection by the knife of the anatomist could have been more perfect. The treatment was concluded after fourteen months, the patient having been discharged cured in April, 1862.

Dr. N. G. Davis, of Greenwood, Miss., in a letter to Dr. Bozeman, dated January 18th, 1871, says, that the case had been under his observation ever since the operation was performed, and the cure remains perfect. The woman can go as long without having to empty the bladder as any one, and experiences no inconvenience in the passage of the urine.

This cure, Dr. Bozeman believes to be the only one on record after such extensive destruction of the tissue. He attributes to Prof. Willard Parker, of New York, the credit of having first proposed and practised cystotomy for the relief of catarrh of the male bladder, and from the encouragement thus given, he was led to apply the same principle of treatment to the female bladder.

The following were appointed the Committee on Ethics:—Drs. Orton, Dean, Doolittle.

The Business Committee read the following papers by title:—"Biographical Sketch of the late Dr. Thomas Cock," by Gurdon Buck, M.D.; "On Trismus Nascentium," by Dr. James S. Bailey, of Albany, N. Y.

The President announced the name of Dr. F. B. Hough, from Lewis County, to fill the vacancy in the Committee on Registration caused by the death of Dr. Brinsmade, of Troy, N. Y.

PERMANENT MEMBERS FROM DIFFERENT DISTRICTS.

To the Medical Society of the State of New York:

The undersigned members of the medical profession residing in the Fifth Senatorial District, respectfully represent that, as appears by the published volumes of the Transactions of the Society, they have been made eligible for election as permanent members of said Society; that said eligibility with many of the undersigned has existed for several years, and that the honor of an election as permanent member of the State Society is, by the Constitution and By-Laws of said Society, justly their due.

The undersigned have learned with surprise that at the last annual meeting of the State Society their claims were passed over, and a gentleman from another district was elected as one of the two entitled to an election from the Fifth Senatorial District, and that the person thus elected was a resident of the city of Albany.

The undersigned respectfully protest against such an unjust proceeding, claiming that the yearly selection for permanent members of the Society for the several districts should be made from the residents of said district who have been made eligible, and that to pass them by, and to give the election to a non-resident, is, in their judgment, a disregard of their privileges, and a violation of the Constitution and By-Laws of the Society; against which the undersigned respectfully remonstrate.

	County.	When made eligible.
G. L. Halsey	Otsego	1866.
T. B. Smith	Otsego	1867.
J. K. Leaning	Otsego	1868.
Horace Lathrop	Otsego	1870.
G. W. Cooke	Otsego	1870.
Frank D. Beebe	Madison	1867.

September, 1870.

The following was also received:—

CLINTON COUNTY MEDICAL SOCIETY,
PLATTSBURG, N. Y., January 10, 1871.

At the Annual Meeting the following resolutions were unanimously adopted:

Whereas the Members of the Clinton County Medical Society did recommend Arthur S. Wolff, M.D., Physician of the Clinton State Prison, our late Delegate to the State Medical Society, for permanent member; and whereas the Society did not act on their recommendation, but, on the contrary, have elected William H. Graig, of Albany, who is located in the Third District, and not in the Fourth; therefore, be it unanimously

Resolved, That we again recommend Arthur S. Wolff, M.D., as a fit and proper person, professionally and socially, to become a permanent member of the State Medical Society. In addition to our claims, being one of the oldest county societies in the State, we have no permanent member. Arthur S. Wolff, M.D., is the oldest eligible member in the Fourth District. His election would be gratifying to every member of our society. And be it further

Resolved, That our delegate be instructed to urge our claims in favor of Arthur S. Wolff, M.D., and that a copy of these resolutions be transmitted to the President of the State Medical Society and Nominating Committee.

A. C. BUTLER,
Pres. of Clinton Co. Med. Soc.

DR. JOHN P. GRAY read a paper "On the Relations of Insanity to Physical Diseases."

Remarks were made upon the paper by Dr. E. H. Parker.

The Society then adjourned to meet at 8 o'clock.

FIRST DAY—EVENING SESSION.

The Society met, agreeably to adjournment, at 8 o'clock, at Association Hall. The President, Dr. Vanderpoel, called the meeting to order.

ASTIGMATISM AND OTHER DEFECTS OF SIGHT FROM ABNORMAL REFRACTION.

DR. H. D. NOYES, of New York, delivered a lecture on astigmatism, illustrated by the magic lantern. After first describing the ordinary phenomena of vision by models and lenses, he showed the departures from the normal functions constituting astigmatism, and illustrated very satisfactorily the manner in which the different cylindrical glasses corrected these defects.

The meeting then adjourned to meet at 9 o'clock on Wednesday morning.

SECOND DAY—MORNING SESSION.

The Society was called to order by the President, and prayer was offered by the Rev. Dr. Halley. The minutes of the day preceding were read and approved.

DR. QUACKENBUSH proposed several gentlemen as members by invitation.

ANOTHER PROTEST FROM THE COUNTRY MEMBERS.

DR. E. H. PARKER presented a resolution, on behalf of the Dutchess County Medical Society, protesting against the appointment of permanent members from districts to which they may not belong. It was referred to the Nominating Committee.

REPORTS OF DELEGATES.

The following gentlemen presented their reports as delegates to sister societies: Dr. Sherman, for the Vermont State Medical Society; Dr. Hart, for the Maine State Medical Society; and Dr. Corliss from the Massachusetts and Rhode Island State Medical Societies respectively; and Dr. Bradford from the Ohio State Medical Society.

DR. KNEELAND called for a reconsideration of the resolution of Dr. Squibb, with reference to the paper in the Transactions of 1868 by Dr. Thoms. After some discussion it was, on motion, referred to the Committee on Ethics.

THE PROTECTION OF FOUNDLINGS.

DR. JACOBI, New York, presented the following, which were adopted:—

Whereas, Humanity acknowledges the claims of every human being to life and some degree of prosperity, and recognizes, in every civilized country, the

right of every newborn to be protected and supported; and

Whereas, Political economy requires the saving of a being which has given rise to outlay until and after it can become useful and repay the expenses incurred in its full development; and

Whereas, The moral constitution of society requires that every member of society should obtain a sufficient training of its intellectual and moral powers; and

Whereas, The mortality of infants, being large from natural causes, is three times larger in public institutions destined for the maintaining of infants than in the general infant population; and

Whereas, The Board of Commissioners of Charities and Correction, always willing to be guided by competent advice, and desirous of doing their best, have *already* had a report prepared for them suggesting changes and improvements in the raising of their infants;

Therefore, it is resolved by the State Medical Society to appoint a committee to investigate, and report in the meeting of 1872, upon the following subjects:—

1st. The causes of the fearful mortality of abandoned infants in general, and those in large public institutions in particular.

2d. The reasons for the giving up of large institutions, and the successes of the dispersing system for abandoned infants, in every country of Europe, where the preservation of lives was an object.

3d. The causes of the unusually large infant mortality in the institutions in charge of either public or self-constituted authorities in New York City and State.

4th. The plans and means for improving the condition of foundlings and abandoned children in New York City and State—

a. During their infancy, when they are most subject to disease and death—

b. During childhood and adolescence, when they require an education sufficient to make them useful members and prevent them from becoming enemies of and dangers to society.

The President appointed the following committee on Dr. Jacobi's resolutions of inquiry: Dr. Jacobi, New York; Dr. White, Buffalo; Dr. Dean, Rochester; Dr. Thos. Hun, Albany; Dr. Hutchinson, Brooklyn.

CONCERNING PERMANENT MEMBERS.

Dr. Sanders offered the following:—

Whereas, Dissatisfaction has arisen from the election of permanent members of this Society that were not residents of the districts entitled to their membership, therefore,

Resolved, That it is the sense of the Society that permanent members should and must, in all cases, be selected from such persons as are eligible residing in the districts entitled to such membership.

Adopted.

ON BY-LAWS.

Dr. O. White, Chairman of Committee on By-Laws, reports through the Secretary as follows:—

"The Standing Committee on By-Laws beg leave to report through the chairman of the committee, that during the past year the following County Medical Societies have submitted their Constitution and By-Laws to the committee for examination: St. Lawrence Co. Medical Society; Monroe Co. Medical Society; the Genesee Co. Medical Society; the Cattaraugus Co. Medical Society; and the Chatauqua Co. Medical Society."

Dr. R. Newman, New York, reported as delegate to the Connecticut Medical Society, and Dr. Shumway reported as delegate to the Vermont Medical Society.

Dr. Frank Hyde read a biographical sketch of the late Dr. Alex. Thompson.

Dr. D. B. St. John Roosa (New York) presented a statistical report of 494 additional cases of aural disease seen in private practice.

DIVERGENT SQUINT.

Dr. Agnew, of New York, gave a brief verbal abstract of a paper on the operations for divergent squint by advancing the faulty internal rectus, illustrating the same by blackboard diagrams, showing Mr. Critchett's method and his own. Dr. A. called attention to the fact that divergent squint frequently resulted from the common operation for convergent squint, and especially warned the members against the contemporaneous tenotomy of both internal recti, except in cases in which the dynamics of the faulty muscles had been carefully studied in conjunction with a proper determination of the refraction of both eyes. He also warned the members against attempting to cure divergent squint by tenotomy of the external recti alone.

Dr. H. D. Noyes offered some general remarks upon the subject, indorsing Dr. Agnew's views.

A NEW JOINTED SILVER CATHETER.

Dr. T. H. Squire, of Elmira, exhibited a jointed silver catheter for use in difficult cases of retention of urine, more particularly in such as are complicated with enlarged prostate. The jointed portion is confined to the curve, and is formed of a series of cups fitting into each other, and so arranged as to give a smooth and continuous surface externally. The cups or sections are held in position by a chain in the course of the curve, and a rod in the rigid portion, this rod terminating at the handle and fixed there by means of a screw bolt passing through a perforation.

Dr. Hutchinson, of Brooklyn, stated that he had made use of the instrument in several difficult cases, and was satisfied in view of the flexibility and yet firmness of the curve that it was superior to any in use.

His testimony was corroborated by Drs. Sayre, of New York, Wolcott, of Utica, and Corliss, of Greenwich. The last gentleman could not, however, see how a false passage could be avoided. Dr. Squire stated in answer that it was impossible to enter a false passage with it, and Dr. Corliss was pleased to know that such was the fact.

A FLEXIBLE SILVER BONE PROBE.

Dr. Sayre, of New York, in the same connection, presented a probe similarly constructed, which he had used with benefit in cases of necrosis in which the sinus was long and tortuous. He had never failed with this instrument to detect the presence of necrotic tissue in the difficult cases.

ANÆSTHESIA AND A NEW INSTRUMENT.

Dr. E. R. Squibb read a paper on anæsthesia, in which he described, among other things, his new instrument for the administration of ether unmixed with air.

Dr. Noyes followed with a description of an ether apparatus devised by him more especially for operations upon eye patients. It was composed of a framework of wire, bent to fit accurately over the nose, mouth, cheek, and chin, covered with rubber, and continuous with a tube communicating with a powder-flask arrangement containing the sponge, and communicating in its turn with an india-rubber bag.

Dr. Sayre stated that he had been in the habit of

administering chloroform, without the admixture of air, by means of an apparatus somewhat similar, but with a valve-like arrangement to allow of the exit of the expired air. A very small quantity of the anæsthetic was necessary by such means.

Dr. Sherman gave a detailed account of his experience with chloroform, which, however, contained nothing specially new.

The following papers were read by title and referred: Drs. Winston, "Biographical Sketch of Minturn Post, M.D.;" J. B. Smith, Nyack, "Obituary Notice of M. C. Hasbrouck;" C. C. F. Gay, Buffalo, "Radical Cure of Hernia," also "Ligature of Subclavian Artery for Aneurism;" P. O. Williams, "Fracture of one of the Bones of Spinal Column, with drawing."

ARTERY CONSTRICTOR.

Dr. S. Fleet Speir exhibited and described his artery constrictor, and presented specimens showing the effects of its action in restraining hemorrhage by the invagination of the internal and middle coats.

The Society then, on motion, adjourned to meet at 3 o'clock, P.M.

Second Day—Afternoon Session.

The Society reconvened at 3 P.M., and was called to order by Vice-President Dr. Dayton.

Dr. Thomas Addis Emmet, of New York, read a paper on "Prolapsus Uteri, its Cause and Treatment."

Dr. W. James, of Franklin, read a paper on "Veratrum Viride."

Dr. Hutchinson made his report on a portion of the President's address, recommending that the second sentence of paragraph 6, chap. 3, of the by-laws (page 70 of the Transactions of 1869) be replaced as follows:

"The author of any paper read before the Society may have the privilege of publishing the same in any legitimate medical publication, unless objected to by a vote of the Society; and any paper presented to the Society by title may be published by the author, unless objected to by the Committee on Publication," and that the words "or which has already appeared in any book or journal," in the third sentence of the same section and chapter, be stricken out. Accepted and adopted.

THE CASE OF DR. THOMAS.

Dr. H. W. Dean, Chairman of the Committee on Ethics, reported as follows:

"The Committee on Ethics, to whom was referred the case of Dr. Thoms, whose case was brought before the Society yesterday, after hearing the statements of Dr. Thoms, recommend that he be permitted to make a statement of facts before the Society, from which more satisfactory results may be obtained than by definite action of this Committee.

"In relation to the difficulty connected with the Niagara County Medical Society, the committee respectfully report that, after examining all the facts brought to its knowledge, its action is embarrassed by the existence of questions for the solution of which no precedent appears in the history of the Medical Societies in this State to guide its actions. For a score of years or more, the testimony elicited shows that the Niagara County Medical Society has comprised elements that should have placed it beyond the fellowship of this Society; a large number of its members have been in constant and open violation of not only the spirit of our code, but also the express rules of order and professional conduct enjoined by this Society.

"The committee find that for two or three years past a minority membership of the Society has made laudable efforts to correct the evils alluded to, but that any question tending to the discipline of its members could not be entertained, by reason of the majority influence against such action. A minority membership, alleging its inability to effect such reformation among its members as to make effective the code of ethics governing this Society, did, at a semi-annual meeting of the Niagara County Medical Society, held in June last, by resolution dissolve said Society and organize a new Society.

"The Committee are of the opinion that a County Medical Society in this State is not competent to the work of its own dissolution, but very respectfully submit the question to the State Medical Society. At the same time the Committee desire to express the hope that the seceding portion of the Niagara Medical Society may be advised to such action as will secure to them the privilege and relationship of the most rigidly governed Societies.

"If the Committee rightly estimate the privileges of the County Medical Societies, the resources of the minority membership of the Niagara County Medical Society are to the statutes of the State now existing or to special legislation.

J. G. Aston,
A. F. Doolittle,
H. W. Dean,
Committee."

That part of the report relating to Dr. Thoms was fully discussed, and finally the preamble and resolutions of Dr. Squibb, presented Tuesday, charging him with plagiarism, were unanimously adopted.

That part of the report relating to the Niagara County Medical Society, after much discussion, was referred back to the Committee.

DR. SAYRE AND HIS MALPRACTICE SUIT.

Dr. Dean, from the Committee on Ethics, presented the following, which was unanimously adopted:—

"Whereas, An action for alleged malpractice was recently brought against Lewis A. Sayre, M.D., of the city of New York, a permanent member of this Society, in which he was maliciously and falsely accused, and which resulted in a triumphant vindication of his professional skill by an award of damages in his favor; and

"Whereas, By fearlessly meeting this groundless prosecution, in resisting all attempts at proffered compromise, and by vigorously forcing this scandalous suit to a trial, he secured a judicial decision which established a legal principle of great value to the whole medical profession, and which has been justly characterized as 'one of the greatest advances in jurisprudence during half a century, and will do much to prevent malicious attacks upon medical men;' therefore,

"Resolved, That, in the opinion of this Society, the services rendered our common profession by Dr. Lewis A. Sayre, by his successful effort to protect its honor and interests, merit a distinct recognition, and that a unanimous vote of thanks is hereby tendered him."

Dr. Samuel Peters, of Cohoes, read a paper on "Spinal Irritation."

The Society then adjourned till evening, when the annual address was delivered by Dr. Vanderpoel.

Second Day—Evening Session.

The Society convened at 8 P.M., when the President, Dr. S. Oakley Vanderpoel, gave a very interesting, elaborate, and learned address upon "The different Relations of Pathology to the Study and Progress of Medicine." It was listened to with marked attention by a large and appreciative audience, and was decidedly one of the best efforts of the kind with which the

Society has been favored for many a year. The Society were then sumptuously entertained by the President at his residence.

THIRD DAY—MORNING SESSION.

The Society met at 9 A.M., and after being called to order by the President, Dr. S. Oakley Vanderpoel, prayer was offered by the Rev. Dr. John Peddie.

On motion, the regular order of business was dispensed with for the purpose of presenting some of the papers left over from the last session.

DR. E. R. HUN, of Albany, read a paper "On Glosso-Pharyngeal Paralysis."

DR. JACOBI remarked upon the paper, giving a detailed account of the usual morbid appearances found in these affections, the one presented by Dr. Hun being, in respect to the hardening of the nerve-tissue, unusual.

DR. J. G. RICHARDSON, of Penn. Hosp., read, by invitation, a paper "On the Diagnosis of Early Pulmonary Phthisis by the Microscope," setting forth the value of recognition of the yellow elastic walls of the air vesicles.

COMMITTEE ON PSYCHOLOGY.

To the Medical Society of the State of New York:

The committee on that part of the President's inaugural address which refers to psychology, beg leave to report as follows:—

That they recommend the practical carrying out of the views of the President on the importance and imperative necessity of the investigation not only into morbid conditions found in the insane, but as well into those pathological states capable of ultimating in insanity.

The importance of this cannot be overestimated, and it is alike the duty of the general practitioners as well as those having charge of hospitals for the insane, to make the most careful clinical observations in every case coming under their care with the same scrutiny that is demanded and conceded in every form of neuroses. It is true, in the present state of psychological science, for the general practitioner, that the data for observations are defective; but it has been equally true, as applied to any wide field of medical research.

The foundation of psychological science must be laid in pathological facts, and these can only be obtained by large experience.

Therefore to clinical observations must be added post-mortem examinations.

To accomplish these results most efficiently it is absolutely necessary that students of medicine should include in their study of nervous diseases, insanity as well as other cerebral affections.

The committee therefore recommend the passage of the following resolutions:—

Resolved, That this society earnestly approves the views and recommendations of the President in making the study of insanity a necessary and inseparable part of the study and teaching of the neuroses.

Thorough instruction can only be accomplished by the means of clinical and didactic instruction, and that this step is alike due from every medical school to the standard of medicine at the present time as well as to medical science itself.

Resolved, That every medical college be requested to carry these suggestions into practical application, and that the Secretary of the State Medical Society be directed to transmit a copy of these resolutions to the several medical colleges of the State.

JOHN P. GRAY,
JAMES L. BANKS.

Accepted and adopted.

DR. PARKER presented the following:—

Resolved, That the Secretary be instructed to have three hundred extra copies of the proceedings of each annual meeting printed in a separate form and ready for distribution at the next succeeding annual meeting, for the use of the members present.

Carried.

DR. WHEELER, on vaccination, offered the following:—

Resolved, That the Medical Society of the State of New York recommend the passage of a law requiring previous vaccination as a condition of admission of pupils to the public schools of the State, and that the President appoint a committee of three members to present the subject to the consideration of the Legislature.

ON THE WORK AT SURGEON-GENERAL'S OFFICE.

The Medical Society of the State of New York, desirous of expressing its interest in, and appreciation of, the work of the Microscopical Department of the United States Army Medical Museum:—

Resolves, That the investigations of this department, particularly in the study of healthy and diseased human tissues by means of high powers of the microscope and of photo-micrography, and the dissemination of results by means of photography, have materially added, and still promise to add, to the world's knowledge of health and disease, and to the world's facilities for relieving disease and averting death;

That, for a long time to come, at least, these results would not be attained without the opportunities furnished at the Army Medical Museum;

That the wise liberality of the Government in carrying on this work is heartily appreciated by the medical profession, and should be gratefully remembered by the citizens of this country.

That copies of these resolutions be sent to the Surgeon-General of the United States, and to Dr. J. J. Woodward of the U. S. A. Medical Museum at Washington.

EDWARD R. HUN,
R. H. WARD.

Unanimously adopted.

REPORT OF COMMITTEE ON NOMINATIONS.

The Committee on Nominations unanimously submit to the Society the following report:

For President.
DR. WILLIAM C. WEY, of Elmira.

For Vice-President.
DR. ANDREW F. DOOLITTLE, of Herkimer.

For Secretary.
DR. WILLIAM H. BAILEY, of Albany.

For Treasurer.
DR. CHARLES H. PORTER, of Albany.

For Censors.—Southern District.—Drs. Edward R. Squibb, of Brooklyn; Samuel T. Hubbard, of New York; N. C. Heusted, of New York. Eastern District.—Drs. B. P. Staats, of Albany; P. McNaughton, of Albany; C. C. Covell, of Kingston. Middle District.—Drs. M. M. Bagg, of Utica; Horace Lathrop, of Cooperstown; Charles G. Bacon, of Fulton, Oswego Co. Western District.—Drs. J. F. Miner, of Buffalo; C. C. Wyckoff, of Buffalo; D. Calvin, of Clyde.

For Committee on Correspondence.—1st district, Dr. Geo. F. Shrady, of New York; 2d district, Dr. Abraham Crispell, of Rondout; 3d district, Dr. Henry B. Whiton, of Troy; 4th district, Dr. R. L. Allen, of Saratoga; 5th district, Dr. W. T. Bassett, of Mount Vernon; 6th district, Dr. J. G. Orton, of Binghamton; 7th district, Dr. H. N. Eastman, of Geneva; 8th district, Dr. J. F. Miner, of Buffalo.

For Permanent Members.—1st district, Drs. Thomas Addis Emmett, of New York; S. Fleet Speir, of Brooklyn. 2d district, Drs. J. L. Lamoree, of Sullivan; R. Loughran, of Ulster. 3d district, Dr. Geo. H. Hubbard, of Lansingburg; Nelson Fanning, of Catskill. 4th district, Drs. Hiram McNutt, of Warren; B. F. Sher-

man, of Ogdensburg. 5th district, Drs. Frank S. Law, of Oswego; Walter Booth, of Booneville. 6th district, Drs. G. S. Halsey, of Otsego; S. F. McFarland, of Oxford. 7th district, Drs. Nathan R. Tefft, Onondaga Hill; Jas. W. Wilkie, of Auburn. 8th district, Drs. William Van Pelt, of Erie Co.; R. C. Reynolds, of Rochester.

Eligible for Permanent Membership.—1st district, Drs. G. S. Winston, of New York; D. B. St. John Roosa, of New York; A. E. M. Purdy, of New York. 2d district, Dr. Thomas Hammond, of Dutchess. 3d district, Drs. Matthew H. Benton, of Troy; Francis H. Parmelle, of Green Bush; Chs. L. Hubbell, of Troy; Eben. W. Carmichael, of Sand Lake; John P. Whitbeck, of West Troy; E. Whittlesy, of Greene. 4th district, Drs. Moses H. Colby, of Dean's Corners; Newton H. Ballou, of Mechanicsville; Alfred J. Long, of Whitehall. 5th district, Dr. H. G. P. Spencer, of Watertown. 6th district, Drs. William Bassett, of Binghamton; T. H. Squire, of Elmira; F. M. Perrine, of Lyonsville. 7th district, Dr. Roger W. Pease, of Syracuse. 8th district, Drs. Simon T. Clark, of Lockport; C. N. Palmer, of Niagara.

Honorary Members.—Drs. William H. Byford, of Chicago, Ill.; Edwin M. Snow, of Providence, R. I.; Wilmer Worthington, of West Chester, Pa.; William McCullom, of Woodstock, Vt.; John R. Webb, of Galveston, Texas; E. R. Hunt, of Hartford, Conn.

Eligible for Election for Honorary Members.—Drs. Greenville Dowell, of Galveston, Texas; J. H. Lore, of Laclare, N. J.; M. Nélaton, of Paris, France; Rudolph Virchow, of Berlin.

For Honorary Degree of Doctor of Medicine.—Dr. —— Odell, of Otsego Co.

Delegates to the American Medical Association.—Drs. E. S. F. Arnold, of Westchester; C. V. Barnett, of Greene; R. Loughran, of Ulster; Jacob Snell, of Montgomery; G. S. Winston, of New York; Alfred Underhill, of New York; L. A. Sayre, of New York; Samuel G. Woolcott, of Utica; Edwin Hutchingson, of Utica; E. H. Parker, of Poughkeepsie; Horace Lathrop, of Otsego; Geo. A. Dayton, of Otsego; E. T. Krackowitzer, of New York; E. L. Beadle, of Poughkeepsie; Henry D. Didama, of Syracuse; H. C. Hendrick, of Cortland; Nelson Niverson, of Schuyler; H. R. Bellows, of Norwich; G. S. Winston, of New York; E. R. Hun, of Albany; Lin. Moore, of Albany; Jno. P. White, of Buffalo; A. N. Bell, of Brooklyn; A. J. Long, of Whitehall.

Delegates to Massachusetts State Medical Society.—Drs. Oliver White, of New York; J. O. Van Hovenburgh, of Ulster; E. R. Hun, of Albany; John P. Gray, of Utica; J. C. Hutchinson, of Brooklyn; Wm. Govan, of Stony Point.

Delegates to Connecticut State Medical Society.—Drs. Hiram Corlies, of Washington; H. D. Bulkley, of New York; Frank Burdick, of Johnstown; J. Lindsley, of New York; C. C. Covell, of Ulster.

Delegates to New Jersey State Medical Society.—Drs. Ferris Jacobs, of Delhi; John R. Van Kleck, of New York; C. C. Covell, of Kingstown.

Delegates to New Hampshire State Medical Society.—Drs. Jas. V. Kendell, of Onondaga; M. R. Holbrook, of Poughkeepsie; L. B. Smith, of Rockland.

Delegates to Vermont State Medical Society.—Drs. L. Burton, of Montgomery; John B. Shaner, of Herkimer; Frank S. Low, of Oswego.

Delegates to Pennsylvania State Medical Society.—Drs. Marcus M. Wood, of Chenango Co.; E. W. Bottom, of Wayne; H. S. Chubbuck, of Elmira.

Delegates to Ohio State Medical Society.—Drs. A. Crispell, of Rondout; Gurdon Buck, of New York; Jacob Hunt, Utica.

Delegates to Maine State Medical Society.—Drs. S. Barrett, of Genesee; E. M. Alaba, of Onondaga; A. D. Hull, Rensselaer; E. S. F. Arnold, of Westchester.

Delegates to Rhode Island State Medical Society.—Drs. A. C. Hull, of Ulster; J. L. Banks, of New York; Samuel Hart, of Kings.

Delegates to the Illinois State Medical Society.—Drs. Derilo White, of Chenango; Geo. F. Shrady, of New York; J. C. Hutchinson, of Kings.

Committee on Statistics.—1st district, Drs. Ellsworth Eliot, of New York; 2d district, Geo. J. Fisher, of Sing Sing; 3d district, Chas. H. Porter, of Albany; 4th district, Alex. M. Vedder, of Schenectady; 5th district, A. S. Odell, of Brookfield, Mad. Co.; 6th district, John J. Orton, of Binghamton; 7th district, Nelson Niverson, of Hector, Schuyler Co.; 8th district, S. B. Coates, of Batavia.

Committee on Prize Essays.—Drs. Thomas S. Rochester, of Buffalo; Henry Dean, of Rochester; Sanford Eastman, of Buffalo.

Committee on Publication.—Drs. Thomas Hun, of Albany; J. V. P. Quackenbush, of Albany; W. H. Bailey, Albany.

Committee on By-Laws.—Drs. Oliver White, of New York; Thomas Hun, of Albany; W. H. Bailey, of Albany.

Respectfully submitted,
JOHN G. ADAMS, Chairman.

CONCERNING CARELESS PHARMACY, ETC.

Preamble and Resolutions offered by E. R. Squibb, M.D.:

Whereas, The Medical Society of the State of New York is informed of two measures that have been or will be brought before the Honorable Legislature of New York during the present session, for the purpose of protecting the people of the State against the rapidly increasing number of disasters which occur from incompetent and careless pharmacy.

And whereas the interests of this Society and of the people are the same upon this subject, because the utility of the profession which this Society represents to the people at large depends very much upon the quality of the medicines with which it is supplied, and the competency with which these are prepared for application. One of the measures proposed for protection is the appointment of a Board of Examiners to test the qualifications of those who shall be allowed to dispense medicines.

The other is to supply means to assist a chartered institution to extend its design for educating pharmacists.

All legislative bodies in this country show a strong indisposition to interfere with free trade, even in so vital a matter as medicine; and the practical effect of this indisposition, in this State, at this time, is, that any person may control the issues of human life and death as a doctor,—or as a pharmacist may buy, recommend, and sell the most deadly medicines without adequate knowledge of them, and without control.

In deference to this policy of the Legislature of this State, whether the policy be wise or not, this Society earnestly recommends that the educational policy long established in the common school system of the State be extended to pharmacy by offering to students of that art a more extended means of acquiring competency. The plan would be to supply liberal adequate means for acquiring education in pharmacy, with due notice that after a reasonable time penal law would establish a standard of qualification, and enforce a reasonable responsibility for careless and ignorant acts.

There is one chartered College of Pharmacy in this

State, which has struggled along for many years through poverty and adversity, almost unsupported by either law or popular favor, whose object has always been to do that for which legislation is now popularly demanded. Properly enlarged and supported this institution might be sufficient for the present wants of the State, at least so far as to try the value, in practical operation, of the educational plan long since endorsed by the Legislature in the charter of the College.

This New York College of Pharmacy is now, or will be, petitioners to the Legislature during its present session for pecuniary aid to enable it to extend and better carry out its educational purposes.

Therefore, be it resolved, That this Society deprecates any action on the part of the Legislature whereby any new offices or inspectorships may be created, at least until other more reasonable means be tried—first, because examinations and inspections can neither educate persons nor otherwise secure competency; and second, because experience has shown in other States and countries that such plans are very partial in their effects—very apt to degenerate into abuses—and that their ultimate expense to communities is greatly out of proportion to the good obtained in the result.

Resolved, That the Medical Society of the State of New York heartily endorses the objects of the New York College of Pharmacy as set forth in the accompanying petition of its Board of Trustees, and desires that the petition may be granted.

Resolved, That a copy of this preamble and resolutions, authenticated by the signatures of the President and Secretary of the Society, be transmitted to the Senate and Assembly through the presiding officers of these bodies.

New York, January, 1871.

We, the undersigned, trustees and members of the College of Pharmacy of the City of New York, do hereby most respectfully petition the Honorable the Legislature of the State of New York for aid to enable the trustees of said college to extend its labors in advancing Pharmaceutical Science. We most respectfully submit herewith a few points to the kind consideration of your honorable body.

The College of Pharmacy of the City of New York was incorporated April 25, 1831, for the purpose of cultivating, improving, and making known a knowledge of pharmacy, its collateral branches of science, and the best modes of preparing medicines and their compounds, and of giving instruction in the same by public lectures. Since the commencement of its labors the college has granted about 150 diplomas, and has furnished about 200 lectures each season. There are only six Colleges of Pharmacy in the United States, this college being the only one in the State of New York; and young men desirous of obtaining its diploma, on applying to a committee of the college, expressly appointed for that purpose, are aided in obtaining positions in first-class pharmaceutical establishments, so that even persons from the remotest part of the State may reap its benefits.

The annual income of this college, from all sources, depends almost entirely on voluntary contributions by the pharmaceutical fraternity, and has so far only been sufficient to supply defective apparatus, to pay the lecturers, and to make fragmentary additions to its collections, without enabling it to increase the latter to such an extent as the recent rapid strides in science demand.

At present it is imperatively necessary to increase the number of, and to more adequately compensate the lecturers (who are the only persons receiving salary from the College), to procure collections of standard botanical, mineralogical, and chemical specimens, to obtain a large lecture-room with a chemical and pharmaceutical laboratory, and to make numerous additions to the library—for the procurement of all of which the funds of the College are totally insufficient.

In view of these wants, and since it is all-important that persons devoting themselves to pharmacy should have the proper scientific education, in order to be qualified for their responsible position, and to enable the College to combat ignorance and incompetency, which endanger the health and often the lives of the people, your petitioners most respectfully ask the Hon. the Legislature of the State of New York for aid, in the sum of $10,000, to assist in carrying out the above mentioned designs of the College. Such a public acknowledgment will most certainly be in many ways a benefit not only to the city of New York, but to the State at large.

Confidently relying on the justice of our humble request, and on the wisdom of your honorable body, your petitioners will ever pray.

After a brief discussion the mover withdrew the preamble and resolutions, because of insufficient time to consider so important a subject.

THE NIAGARA COUNTY SOCIETY.

The Committee on Ethics to whom the Niagara County difficulty was referred, reported in favor of the minority forming a new Society.

COSTS IN MALPRACTICE.

Dr. E. Eliot offered the following:—

Whereas, The bill before the Legislature to secure physicians in the payment of costs and damages in suits for malpractice, by compelling the plaintiff to give satisfactory bonds before the commencement of any suit, is one of the highest interest to every physician; Therefore

Resolved, That this Society respectfully requests the Honorable Legislature to pass the same.

Adopted.

After the usual vote of thanks to the President and Secretary, the Society adjourned until the first Tuesday in February, 1872.

Progress of Medical Science.

Pepsin and its Medicinal Preparations.—Dr. Fred. Hoffmann, of New York, relates, in a recent publication in the Proceedings of the American Pharmaceutical Association, a series of comparative examinations of the French as well as of the American commercial dry pepsins, by which he has satisfied himself of the well-founded disfavor into which this remedial agent has fallen with the practitioner. The author refers to similar results recently published by Dr. Hager, of Berlin (*Pharmac. Central Halle*, 1870), wherein Dr. Hager states that this remedy had been in discredit with him for years, but that his attention had been drawn to pepsin anew by the remarkable efficacy of Schering's recently introduced "Essence of Pepsin," prepared from dried ostrich's stomachs, at the advice of Dr. Oscar Liebreich. Dr. Hager examined, and gives in his paper the formulas of, the French liquid pepsin preparations. He found none of them equal in efficacy to Schering's preparation, which dissolves, at the temperature of the human body, one-tenth of its weight of humid blood-fibrin within one hour.

Dr. Hoffmann concludes his paper, "According to long experience and to the numerous and recent statements of eminent practitioners and observers, there remains no doubt that pepsin, when properly obtained and prepared, is of great therapeutical value in cases where the secretion of the gastric juice is either de-

ficient in quantity or defective in quality, and that the discredit attributed to it is due to the inferior quality of the pepsin-preparation, and to the defective mode of obtaining and preparing the same. It ought to be the aim, and lies in the self-interest of the pharmaceutist, henceforth to remedy the unreliability of this important preparation, and so furnish the practitioner and the patient with a pepsin in the most judicious form of preparation.

"In order to secure this desideratum I think it necessary to discard all amylaceous and similar so-called dry pepsin. Being a remedial agent of no chemical stability, and perhaps in a state of continuous self-decomposition when in contact with organic substances and with the atmosphere, our dry amylaceous pepsins are subjected to constant and incidental degradation. Sooner or later they will lose all medicinal power, and become totally inert. I believe that the best mode of obtaining and preserving the pepsic principle of the gastric juice of the stomach is its incorporation into inactive liquid menstrua without any chemical treatment, as is the case in Boudault's process, and in that of the French code. The simplest possible menstruum, perhaps, may be a mixture of glycerin and water, with or without an addition of some per:entage of alcohol flavored with any artificial wine or fruit essence. The quantity of alcohol, however, ought not to exceed ten per cent., since a greater admixture probably neutralizes the therapeutic action of pepsin.

"The best mode of obtaining the gastric juice from the cleansed, fresh stomachs of the calf, pig, sheep, or of the turkey, is to squeeze them repeatedly between wooden rollers. After all the juice has been squeezed and collected with silver spoons, the membranes are each time, before again passing through the rollers, brushed with a mixture of equal parts of water and glycerin. By this operation, the membranes are thoroughly exhausted. According to our present experience, it may be best to add to the obtained juice a mixture consisting of twenty-five weight parts of glycerin, two parts of hydrochloric acid, eight parts of alcohol, and sixty-five parts of water, deprived of atmospheric admixture by previous boiling. But in order to make the preparation more agreeable to the taste I use instead of the water good Rhine wine, which by its simplicity and greater reliability as to its genuineness is greatly preferable to our commercial Madeira, sherry, and port wines. The mixture is then left in a very cool place (in summer in the ice-box), to deposit, in bottles entirely filled and well corked. When clear it is decanted, the rest filtered, and is then kept in a cool place in small bottles completely filled and tightly closed. The addition of hydrochloric acid may not be necessary, but it seems to be subservient to the clarification of the mixture.

"As to the strength of this pepsin wine, there is no standard established yet. I prepare it of the strength, suggested by Dr. Hager, to dissolve twelve and a half parts of its own weight of humid blood-fibrin."

THE CONSTRICTING SILVER LIGATURE IN ANEURISM.—Dr. Benjamin Howard, of New York (*Trans. Am. Med. Association*), in his Prize Essay on the "Treatment of Aneurism," advocates the *constricting silver ligature*, and offers the subjoined practical suggestions concerning the steps of the operation:—Every precaution should be taken to avoid anything which might interfere with the healing of any part of the wound by first intention. For the arrest of hemorrhage in the wound, cold affusion, ice, pressure, or torsion should be substituted for ligature. The medium size of the silver ligature is preferred; not so small as to have too much tendency to cut, nor so large as to make a clumsy knot. The disturbance of the artery in its bed should be as little as is consistent with the safety of the accompanying vessels. In his later experiments, the ligature was applied outside the sheath of the vessel, and this he would recommend, because the nourishment of the arterial coats is less endangered, absorption of the external coat from pressure of the ligature is postponed or avoided, and the advantages of ordinary indirect compression are more nearly obtained, without risk of pain or sloughing, while the diminution of the arterial current can be regulated with greater accuracy. Before using the wire, it is better to test its strength, and to draw it repeatedly through woollen cloth, so as to remove any irregularity, and to give it a good polish. The wire should not be less than 15 or 18 inches in length, as this contributes much to steadiness in the tying of it. Dr. H. would give the constricting silver ligature preference to any other treatment for closure of the carotid or subclavian, not because it is more likely to succeed there than elsewhere, but because there are other means more apt to fail. The constricting silver ligature is, he believes, essentially adapted to the cure of aneurism equally in the other arteries, while it promises success where no other treatment would be readily practicable.

TOPICAL MEDICATION IN THE TREATMENT OF ENDO-METRITIS.—J. Byrne, M.D., Surgeon to St. Mary's Hospital, Brooklyn, N. Y. (*Trans. Am. Med. Association*), gives the following opinions touching the safety and value of topical medication in the treatment of endo-metritis:—By means of a proper reflux catheter—such as described in his paper—in the hands of experienced and cautious practitioners, tepid water, antiseptic, mildly astringent, stimulating, or alterative solutions may be thrown into the uterine cavity with perfect safety, and, provided the same be judiciously selected and modified to suit the prominent indications of each particular case, a degree of success, so far as topical measures can influence, is in no other manner attainable. On the other hand, powerfully astringent liquids and caustic substances destructive to tissues with which they may be brought in contact, or tending in any great degree to coagulate morbid secretions, are not safe as a rule, seldom if ever necessary, and often dangerous, however carefully or sparingly employed. The strictest regard must in all cases be had to dietetic and hygienic measures, with such other constitutional treatment as may seem demanded.

LIQUID FOR THE PRESERVATION OF WET ANATOMICAL PREPARATIONS.—Dr. B. Titcomb, of Maryland (*Trans. Am. Med. Association*), advocates the subjoined method for keeping objects of pathological anatomy and for the purposes of dissection:—First place the object in a vessel containing pure water; let it remain a few hours, or over night, then transfer it to another containing a solution of creasote, ʒ ij. to f ʒ xij. of water; let it remain over night, then place it in a jar or vessel containing the liquid of the following proportions: ℞. Chloride of sodium, ʒ iss.; sulphate of alumina, ʒ iss.; nitrate of potassa, ʒ vj.; aqua, f ʒ xij.

MALIGNANT TUMORS.—According to Virchow (*N. Y. Med. Journal*), the mortality-lists in the department of the Seine for the years 1830–40 indicated 9,118 deaths from malignant tumors. In 2,996 cases, or 32.8 per cent., the uterus was the organ affected. The proportion for the other organs was as follows:—

Stomach	2,303 or 25.2	per cent.
Mammary Gland	12.6	" "
Liver	6.9	" "
Intestines	4.0	" "

THE SEAT OF TUMORS.—Virchow (*N. Y. Med. Journal*) states that those organs which possess a soft surface, and are often brought in contact with foreign bodies, are oftener the seat of tumors than those which are shut up in cavities, and are rarely brought in contact with outside influences.

TREATMENT OF HEMORRHOIDS.—Dr. John H. Packard, Surgeon to the Episcopal Hospital, Philadelphia (*N. Y. Med. Journal*), says, that one principle should govern us in all the palliative measures adopted in any case of piles: namely, to prevent straining. And this may be carried out in various ways. Besides the adoption of a proper diet-table, embracing simple but nutritious food, well cooked, and not highly seasoned, there are four points to be attended to. By means of medicine we keep the bowels easily moved; ʒ ss. or so of sulphur, mixed with cream or molasses, every morning before breakfast, will do this. Or, by very small doses of Epsom-salts, by Vichy, Congress or Bedford water, we may accomplish the same end. The second measure is mechanical: the patient is instructed to have made a board, with an opening about five inches wide by fourteen long, to place over the ordinary privy-seat, which allows the nates to bulge down too much; this will in a great degree prevent the protrusion of the relaxed rectum. The third is the use of astringent suppositories, to be used after each stool. He has found the perchloride of iron, grs. j, ij, or iij, made up with cacao-butter, to answer best, unless the piles are inflamed, when the acetate of lead is more soothing. The fourth element of the treatment is the employment of a hemispherical block of ivory or vulcanized rubber, about as large as half a billiard-ball, attached to a spring of properly adjusted strength, and this again fastened to a belt. When in place, this supports the parts, and in cases of great relaxation prevents their descent in walking; the comfort thus afforded is very great.

CARBOLIC ACID IN CARBUNCLE.—Dr. J. C. Nott, of New York (*N. Y. Med. Journal*), advocates the local use of carbolic acid in carbuncle, and publishes an obstinate case which was promptly cured after seven applications. He believes this acid to be more penetrating in its action, more efficient as an antiseptic, than subsulphate of iron.

THE ADMINISTRATION OF CHLORAL.—E. Lambert, late House Surgeon of the Maternity Hospital, Edinburgh (*Edinburgh Med. Journal*), affirms that the proper mode of exhibiting chloral is in fractional doses of 15 grs. every quarter of an hour until some effect is produced. Some patients will require doses of ʒ j.; and it is better to produce an anæsthetic effect by ʒ iij. given in the space of two hours than by ʒ j. given singly.

A CASE OF FOREIGN BODY IN THE TRACHEA.—Dr. O. W. Doe, Boston, Mass. (*Boston Med. and Sur. Journal*), publishes an interesting case, where a shawl-pin was swallowed by a child 28 months old, remaining in the trachea thirty-three days after the accident, and finally removed by tracheotomy. The incision, extending from immediately below the cricoid cartilage to the upper border of the sternum, was made through the skin and superficial fascia, and the sterno-hyoid and sterno-thyroid muscles separated, avoiding the thyroid plexus of veins. About ten minutes after the trachea was opened, the patient gave a forcible cough, and the point of a pin was seen to strike the internal wall of the trachea at the edge of the incision, and was immediately seized by the forceps and extracted. The pin was a medium-size shawl-pin, one and a half inches in length, with a glass head. Four days after the operation, the trachea had closed over. The patient made a speedy and perfect recovery, with no untoward symptom, except a slight attack of catarrhal croup on the sixth night. He remarks in closing, that he has only been able to find four cases where tracheotomy has been performed for the removal of either a pin or needle, but a large number for the removal of other foreign bodies of a diversified character.

SULPHO-CARBOLATE OF ZINC.—This salt crystallizes in large, colorless crystals, having the peculiar astringent metallic taste of the zinc salts generally. Dr. Lyons, of Detroit, Mich. (*Detroit Review of Medicine and Surgery*), confirms the views of others in the successful treatment of gonorrhœa by a solution of sulpho-carbolate of zinc. It is highly recommended as a dressing for burns. The solution for the former purpose may be made as strong as eight or ten grs. to the ounce, if the crystals are used. For the latter use a much stronger solution may be employed. The advantages claimed for the sulpho-carbolates are, that while they possess decided antiseptic properties, they have no disagreeable odor, and their action is more gradual and permanent, although necessarily slower than that of the volatile carbolic acid.

STRANGULATED HERNIA.—Dr. S. D. Gross, in a recent clinical lecture at the Jefferson Medical College, on strangulated hernia, mentions the fact that tobacco enemas are no longer employed. Leeches and venesection are made use of less at the present day than they should be. With great local tenderness and a plethoric patient, they diminish the dangers of gangrene in the protruded structures, and the occurrence of general peritonitis. Chloroform has advantageously superseded the use of the warm bath. This anæsthetic has a decided preference over all others; with proper care in its administration it is equally safe; it possesses the advantages of greater promptness of action, and much less liability of unpleasant and protracted secondary effects, as nausea, vomiting, etc. Vomiting should be sedulously guarded against in the treatment of strangulated hernia, on account of its injurious effects upon the constricted bowel, and the danger of a recurrence of the protrusion. Chloral, in thirty gr. doses, promises to be a valuable remedy in the treatment of strangulated hernia, rapidly inducing sleep, and relaxing the system.

SPEEDY AND SPONTANEOUS RECOVERY FROM RUPTURE OF RECTUM AND BLADDER.—Dr. O. C. Gibbs, Frewsburg, N. Y. (*Buffalo Med. and Surg. Journal*), relates the case of a man, aged 55, who, while pitching hay off a wagon, fell backwards on to a sharpened stake of the rack. The stake entered the anus so centrally as to show very little signs of injury, but passing up severely lacerated the rectum and bladder. Falling still farther, the stake was broken off and withdrawn by his co-workman. The ash stake was 1¼ inches in diameter, and full a foot in length. For four days after the accident the urine was passed per rectum. From that time he began to pass urine slightly by the urethra, and after a few more days he had full control of the urine and passed it by the urethra. After about two weeks from the date of the injury he was out doing light work, and, after a few weeks more, went to work on a railroad with shovel and barrow.

This is one of those cases manifesting strong natural recuperative powers—as he absolutely refused treatment. A strong desire and determination to live for his family, residing in Sweden, had probably some influence over the result.

VARICOSE VEINS.—C. C. F. Gray, M.D., Buffalo, N. Y. (*Buffalo Med. and Surg. Journal*), during his pres-

ent term of service in the Buffalo General Hospital, has radically cured two cases of varicose veins by the use of potassa cum calce. He prefers this method to any other, being safe, almost painless, and successful.

The first patient treated, aged 26 years, had enlarged veins, the result of general debility. Five eschars were produced upon the left leg, and three upon the right. In four weeks he was discharged cured.

The second patient, aged 61, had a varicose ulcer, and varicose veins, upon his left leg. Potassa cum calce, made into a paste by alcohol, was applied directly over the enlarged veins at five points. In twenty minutes the paste was washed off with vinegar. The eschars thus made were of the size of a pea. At the expiration of six weeks the eschars had not only healed, but also the varicose ulcer. The cure seems to be radical. When the patient is standing up the leg looks smooth, and there exists no longer any appearance of enlarged veins.

Stricture of the Urethra.—Preceding the operation on a stricture, Dr. Alexander W. Stein, New York (Retention of Urine depending upon Stricture), is in the habit of administering quinine, in five-grain doses, three or four times daily for a few days. It will often diminish, if not prevent, the occurrence of rigors, a symptom so exhausting to the patient. Opium is a desirable adjuvant, and may be combined with the quinine. Occasionally, however, this drug is inadmissible, especially during the existence of renal disease. He has recently employed chloral hydrate with satisfaction, in allaying the irritation consequent upon operations about the urethra.

Instruments should not be introduced too soon after the operation; pain and considerable irritation are produced without a corresponding amount of benefit being derived. In three of his recent operations for internal urethrotomy, no instruments were passed until three weeks after the operation.

Hydrate of Chloral in the Treatment of Congestion of the Retina.—Dr. Russell Murdock, member of the Baltimore Pathological Society, in a discussion on the impairment of sight by hydrate of chloral, replied that it is stated in the ophthalmological journals to cause anæmia of the retina, and suggested that it might prove useful in treating congestion of its vessels, for which artificial leeching is now the remedy.

Radical Cure of Artificial Anus.—F. W. Draper, M.D., Boston, Mass. (*Boston Med. and Surg. Journal*), thus describes M. Goyard's new method of operation for the radical cure of artificial anus: The real indication to be fulfilled is to prevent the escape of the intestinal contents between the lips of the opening. For this purpose a suture is passed near the margin of the orifice, so that it is placed deeply, and draws together tightly the hardened and callous cellular tissue which forms the wall of the canal. The suture, which should be strong and smooth, is passed deeply from side to side, just below the lower extremity of the orifice; then subcutaneously a little distance, then back again to the other side, and so on until the opening of the anus is all involved in this series of transverse stitches; a second suture passed in the opposite direction, the same points of entrance and exit in the skin being observed, completes the circuit and enables the operator to readily oppose and retain the walls of the fistula. The needle used is one of moderate curve, with the eye near the point. After the sutures are passed, the surface of the fistulous tract is thoroughly refreshed, and its external edge is drawn together by an ordinary interrupted suture. The lesion is reduced to a simple wound, and union by first intention may be expected if the general condition of the patient is good. One argument in its favor is, that the patient is not obliged to undergo an operation, properly so called, and does not suffer any loss of tissue.

Case of Extra-Uterine Pregnancy.—A case of this rare kind of pregnancy, occurring in a colored woman aged 35, who had been pregnant between four and five months, is reported by Dr. Talbot Owen, Louisville, Ky. (*Richmond and Louisville Med. Journal*). The tumor, situated in the left inguinal region, was diagnosed as ovaritis, with circumscribed peritonitis. About six weeks from his first visit she died. Five days before her death the pulse rose to 165. On post-mortem examination the placental membranes were found adherent to the broad ligament of the left side of the uterus. The date of rupture of membranes and hemorrhage is located on the day when the pulse ran up to 165 beats per minute, by which hemorrhage the mode of death was from syncope, he thinks, and embraced both of its divisions, asthenia and anæmia.

Chloroform in the Treatment of Biliary Calculi.—John Barclay, M.D., Physician to Leicester Infirmary (*British Med. Journal*), recently gave to a clergyman, aged 58, in his third attack from gall-stones, chloroform in two- or three-drop doses, three or four times a day, and to his surprise pain, tenderness, distension, and jaundice disappeared together.

Treatment of Irritable Heart.—Dr. J. M. DaCosta, Philadelphia (*Am. Journ. Med. Sciences*), in his treatment of irritable heart occurring in soldiers, with hypertrophy, states that no medicine can be compared to aconite. In moderate doses, used for months, a decrease of the enlarged organ happened. In pure irritable heart he recommends digitalis, digitaline, and veratrum viride—the latter stands between aconite and digitalis. Ten drops of the tincture of digitalis were given three times daily, and from $\frac{1}{60}$th to $\frac{1}{30}$th of a grain of digitaline, to some of his soldier-patients. He is disappointed in gelseminum as a cardiac sedative. In instances of irregular action, belladonna and atropia proved very efficient agents.

Acute Atrophy of the Liver.—A case of this rare disease, occurring in a merchant, aged twenty-three years, is reported by Isaac G. Porter, M.D., of New London, Conn. (*Am. Journ. Med. Sciences*). The liver was examined microscopically, and showed entire absence of the cell-element. He regrets to say that it was not weighed. It was so small, however, that on opening the cavity of the abdomen, the universal inquiry among bystanders was, "Where is the liver?" since it had shrunk so much as to have nearly vacated its normal position. The influence of miasmata, while spending a month of April in Savannah, Georgia, was supposed to have been the cause. He was a man of excellent habits, and living under happy mental and hygienic influences.

Fibrous Tumors on the Lobes of the Ears.—Dr. C. H. Burnett, of Philadelphia (*Am. Journ. Med. Sciences*), refers to six cases of recurrent tumors, occurring in negresses, which confirm the statement made by Tröltsch, that these tumors are due to the improper treatment of the pierced lobes, and are usually found in negresses.

The Value of Emetics.—Dr. J. G. Stokes, Grayville, Ill. (*Chicago Med. Examiner*), presents the claims of emetics, given during pregnancy, to the favorable consideration of physicians. He finds that in cases of threatened abortion, miscarriage, and premature labor

they have, in his practice, acted with more promptness, and with more permanent good results, than every other known remedy combined. In attempting to discover the *modus operandi* of an emetic in cases of abortion, miscarriage, and premature labor, its powerful revulsive effects should not be overlooked. It unlocks and restores the secretions, and has a happy effect in righting up the digestive apparatus, and relieves the distress during pregnancy, of sour stomach, heartburn, etc., and tends to regulate the bowels by restoring the secretions. It also has a very decided effect upon the nervous system.

Treatment of Chronic Hydrocephalus.—Dr. N. S. Davis, Chicago, Ill. (*Chicago Med. Examiner*), advocates the subjoined prescription in the treatment of chronic hydrocephalus:—℞. Fl. ex. scutellaria, ℥ ij.; tinct. digitalis, ℥ ss.; iod. potass., ʒ ij.; fl. ex. hyoscyamus, ℥ ss. M. Dose, twenty drops, four times a day, in sweetened water. If the digitalis is found to be exerting too much influence, the dose must be diminished.

Median Lithotomy.—Dr. James L. Little, surgeon to St. Luke's Hospital, N. Y. (*Transactions American Medical Association*), reports twelve cases in which this operation was performed, and only two deaths occurred. He also adds ninety-six American cases, with three deaths. Thirty-nine were under ten years of age, twenty from ten to twenty years, and thirty-six from twenty to sixty-nine years. This gives an average mortality of one in forty-seven and a half as opposed to one in eight, the average in lateral lithotomy. Excluding the fifty-nine cases under twenty years of age, the mortality is one in eighteen in cases ranging from twenty to sixty-nine years; a result far exceeding that of any other form of operation.

Modern Surgery.—An illustration of the advance in surgery made in the present century may be found in the fact that the operator who first successfully tied the internal iliac artery for aneurism, Dr. Stevens, died only two years ago. Dr. S., who then lived in the West Indies, was only twenty-six years of age, in 1812, when he achieved this feat. Nine other operations of the kind, performed since, are upon record, with four successes, so that the proportion of deaths is only 50 per cent.—*Richmond and Louisville Medical Journal.*

The Use of Unctuous Substances in the Lying-in Chamber.—Dr. Wm. Goodell, of Univ. of Penn. (*Am. Journ. Med. Sciences*), wishes to add his protests to those of Mauriceau, La Bas, Denman, Roederer, Gardien and Gehler, against the indiscriminate use of lard and of other unctuous substances, so universally found in the lying-in chamber. For this error the profession is indebted to the ancients, who borrowed the idea from the trainers of their athletes.

His own practice is to discard the use of lard, to let the vagina alone, and to content himself with keeping the cutaneous surface of the perineum well smeared with the surplus mucus which escapes from the vulva.

Abscess within the Cranium.—Professor Nathan R. Smith, of Baltimore, M.D. (*Baltimore Medical Journal*), in 1869, trephined an Episcopalian clergyman, of Virginia, and removed a button of bone about seven-eighths of an inch in diameter. There immediately issued three ounces of fetid pus. The patient was injured twenty years before, by an accidental blow from a sharp stone, on the left parietal bone. It was followed by inflammation of the pericranium, necrosis, and a final separation and discharge of a small sequestrum, involving both tables of the bone. There remained a fistulous opening, which never closed during the twenty years. It so little interfered with his general health that he continued, during that time, to discharge the duties of his calling, though occasionally suffering pain in the head and vertigo, especially when the discharge was in any way impeded. No morbid phenomena followed the operation. By inspection, and by the probe, it was ascertained that the dura-mater was slowly rising, and the cavity being obliterated. Dr. Smith saw his patient last summer on his way to the Episcopal Convention. He had entirely recovered.

Asthma.—In an interesting discussion on the management of asthma, by the members of the *Baltimore Pathological Society*, Dr. Garretson (*Baltimore Medical Journal*) alluded to the case of Colonel Washington, subject to attacks of this affection lasting four or five days, who was relieved in two days by bromide of potassium and belladonna.

Fracture of Neck of Femur, with Inverted Foot.—Dr. A. S. Hudson, Stockton, Cal. (*Pacific Medical and Surgical Journal*), reports a case of this character, occurring in a male adult, who, in a state of intoxication, had fallen down a flight of stairs. It was plainly a case of fracture of the neck of the femur, with impacted fragments. His chief object in communicating this case, is to contribute to the surgical history of this fracture. Hamilton says:—"In sixty cases of fracture of the neck, seen by Cloquet, the foot was never turned in; and Boyer never met with an example in all of his immense experience; but Langstaff, Guthrie, Stanley, and Cruveilhier have each seen one example." Hamilton has seen one.

Skin-Grafting Superseded.—Recent statements on the interesting subject of skin-grafting seem to show that they were mistaken who at first thought it necessary to transplant pieces of skin of any depth. All observers now agree that the first phenomenon is the disappearance of the characters of true skin in the piece transplanted, which becomes a mere pellicle. Further, there should be no trace of areolar or adipose tissue left, and Dr. Fiddes says that there is no necessity to take any skin, but merely a few epidermic scales.—*Med. Press and Circular.*

Aloin.—T. and H. Smith, chemists, of Edinburgh (*Pharmaceutical Jour. and Trans.*), assert that if it be admitted that aloin is the active purgative principle of aloes, one manifest advantage from using it would be that we have therein a medicine of unvarying strength; and we possess what we judge to be conclusive evidence that there is no other substance of value in aloes, and that in all cases where aloes of best quality will produce purgation, a proportionate dose of aloin will be of equal and more certain effect. This preparation is now extensively used in England and Scotland; and since its first discovery the manufacture, by these chemists, has increased from a few pounds to many thousand ounces yearly. They find the dose requisite to be aloin to aloes, as one is to five.

The Removal of External Hemorrhoids.—Dr. John H. Packard, Surgeon to the Episcopal Hospital, Philadelphia, is satisfied that the écraseur affords the easiest and best means of dealing with external hemorrhoids. He passes two needles (the curved are the most convenient), at right angles to one another, through the base of the hemorrhoidal mass, and separates it once. By keeping the bowels confined with opium until the healing is accomplished, the patient suffers no pain, and above all is relieved by one single procedure; there is nothing left to come away.

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New York, February 15, 1871.

THE PROCEEDINGS OF THE STATE MEDICAL SOCIETY.

THE variety and importance of the subjects brought up for the consideration of the State Society gave much interest to its recent meeting. Though not as largely attended as on previous years, those who took part in the proceedings were actuated to a man with the proper motives of mutual benefit and profit. The papers were all good and practical, and the extreme length of some was counterbalanced by the practical good which they accomplished. The most notable of these we shall present at some future time in full to our readers.

We were sorry to have the proper harmony of the meeting disturbed at one time, by the outcroppings of a bitterness of feeling between the hostile parties at Albany. We confess ourselves unacquainted with all the details of the ill-feeling between the friends of the College, on the one hand, and the other members of the profession on the other, nor should it concern us in our journalistic capacity, but we do not desire to be enlightened in any society meeting. We emphatically protest against the ventilation of local matters before an audience of outsiders. There is too much temptation in the excitement of the moment to be unfair, unjust, and to yield to personalities. This was apparent, we are pained to say, on the occasion referred to, and resulted in prejudicing the interests of both sides. No society as such can take an interest in private differences, and it is not only wrong but presumptuous for the parties involved to expect it. We are pleased to note that the affair was promptly checked by the President.

A novel feature in the meeting was a charge of plagiarism against the author of a paper in the Transactions for the year 1868. This charge was made by a member who has always had the confidence and esteem of the members, and in that respect was the more grave and significant. The facts are curious enough, to say the least, and we are sorry that they are not better or more satisfactorily explained. It seems that the article in question is made up mostly of a literal copy of a work on Hygiene by Dr. Parkes, of London, without any credit given therefor. In explanation the appropriator of the labors of Dr. Parkes says that a preface was written in which full credit was given, but that this preface was by some oversight not published with the paper. It further appears that this oversight was due to the writer of said paper, as the preface was not handed along with the paper to the Committee on Publication, and that it was not supplied after the proof of the article was sent him, neither were any quotation marks used. Another curious circumstance is the fact that the volume in which the article appeared had been in Dr. Thoms's hands a full year without any expressed regret that Dr. Parkes did not receive the credit which was his due. If the statement of the compiler is true, that the preface was actually written, and we have no right to say that it is not, it is an instance of culpable negligence unbecoming a conscientious man who is willing to stand strictly on his own merits. The Society did well in passing the resolution of Dr. Squibb; and it is to be hoped that the outraged author may be satisfied that its mebers do not wish to hold themselves responsible for the negligence, to say the least, of one of their number. The Society also passed a vote accepting the excuse of Dr. Thoms, as to intention of wrong, more for the sake of charity to him than of justice to the spirit of the resolution.

The question of the Niagara County Society was a very knotty one to deal with, and we do not see how the adoption of the recommendation of the Committee on Ethics, that the minority form a new society enjoying the right of representation to the exclusion of the others, can remedy the difficulty. Here is a case in which a society is not willing to discipline its members in accordance with the code of Ethics. The right-minded members are so much in the minority that they have no resource but to secede. On the face of it this is right; but how the present statute can be construed to permit it is a matter which we cannot comprehend. But we shall probably have more to say on this general topic in future.

The protests from several county societies regarding the election of permanent members from districts to which they do not belong show a strong opposition to a prevalent practice. The ground taken by these counties is perfectly right; each county society has the right to have its own members who are eligible made permanent members, to the exclusion of outsiders, and they should demand it. The rule should only be departed from when there are no candidates from the counties for the election, and then and then only should substitutes be named.

The addresses of the President were deservedly well received. The suggestions in his inaugural were wise and just what were needed, as evinced by the hearty endorsement of his views by the several committees to whom the respective topics were referred. The annual address was a model of its sort, evincing great research

and practical application. We sincerely trust that it may have its effect in stimulating the proper study of pathological anatomy, not only among its members, but throughout the profession of the country.

The lecture of Dr. H. D. Noyes was also a feature of the meeting, and was a complete success. The admirable manner in which he presented the points of so abstruse a subject as astigmatism, and his beautiful and striking illustrations with the magic lantern, were deservedly appreciated by the audience.

The choice of President belonged to the city, but there was so much disagreement in the nominating Committee as to whom the nominee should be, that it was deemed best to select a gentleman from another part of the State. They could not have done better than confer such honor upon Dr. W. C. Wey, of Elmira. When his name was announced by the Committee the Society showed itself more than pleased with the choice. For many years he has been a faithful attendant upon the meetings; and, aside from contributing his share to the Transactions, has by much hard committee-work proved that he has always had the true interests of the Society at heart.

It was according to rule that Dr. W. H. Bailey, of Albany, was re-elected Secretary. The Society has seemed to be right thus far in assuming that no other gentleman can be found who can perform the duties of this onerous office to more satisfaction.

The prompt and unanimous passage of the resolutions endorsing the course of Dr. Sayre in the malpractice suit was a very flattering compliment to that gentleman, and may be considered as of special interest to the profession at large. The State Society of Pennsylvania must not forget a like expression of their opinion in regard to a similar suit against Prof. Reese, of Philadelphia. But we have already given our views in regard to the course of these gentlemen, and they need not here be reiterated.

Dr. Squibb, of Brooklyn, presented some very important resolutions concerning the sale of poisons, etc., but the discussion of this, as well as other matters of interest, must be deferred.

For many years past it has been the aim of the medical men of this city, particularly those connected with the Coroner's office, to procure the conviction of abortionists. During that time several cases have come to the notice of these gentlemen, in which the medical proof as to the act of crime was overwhelming; and to those uninitiated in the quibbles of the law, and the influence of large counsel fees, it seemed impossible for the criminals to escape. But sometimes law is one thing and simple justice another, and so it has heretofore proved to be as a rule. This being the conclusion to which medical men had come, it must strike not a few with surprise to learn that an acknowledged and bonâ fide abortionist of this city has not only been caught, has had his guilt established, but has been sent to State Prison for the full time allowed by law. Judge Bedford, the son of the well-known and recently-deceased Professor of Obstetrics, was the means to such a desirable end, and the profession and community at large cannot be too grateful to him for the noble stand he has taken.

It seems that, last June, Michael A. A. Wolff called upon a female six months advanced in pregnancy, and by the introduction of an instrument ruptured the membranes, and produced miscarriage, which was shortly after followed by metritis and death. Drs. C. C. Terry and Beach made the autopsy, and succeeded in establishing, in a straightforward manner, the cause of death. The District Attorney took up the prosecution with a will, and succeeded, in spite of every effort to the contrary on the part of the counsel for the prisoner, in making out a clear case.

The charge to the jury showed the judge to be fully alive to the importance of the case; and while desiring to give the prisoner every benefit of doubt to which he might be entitled, there was a determination on the other hand to inflict upon him the most severe punishment. In proof of this we cannot do better than present to our readers the concluding clause of said charge:—

"In conclusion, gentlemen, permit me to say a sacred responsibility now devolves upon you. You are twelve men, selected by the people, on the one hand, and the prisoner on the other, to determine under the solemnity of your oaths a question, not only vital to the prisoner, for his future liberty depends upon it, but momentous to each and every citizen of the Commonwealth. The eyes of the community are upon you. The hopes of the unhappy prisoner hang, as it were, upon your very lips. Let no false sensibility influence your judgments. Your duty is to be just. Look to the evidence in this case; analyze it with a scrutiny worthy of your position as jurors, sworn without prejudice or bias to sustain at all hazards the truth, and in thus sustaining the truth to vindicate the majesty of the law. You are to look neither to the right nor to the left in arriving at your verdict. The great and only lever of thought and action is the testimony as it has been presented to you. Let your verdict be rendered in accordance with that testimony, so help you God. And should you be convinced of the prisoner's guilt beyond that reasonable doubt which the law declares to be the property of the accused, then I ask you, for the protection of unborn millions, be prompt in the rendition of your verdict, thereby declaring in unmistakable language that such a burning shame and so gross a violation of the laws of both God and man shall not be permitted to escape the punishment due so monstrous a crime, perpetrated in the very heart of a community professing to be Christian, and to be governed by law and good order."

The verdict of the jury was "guilty of manslaughter in the second degree, with a recommendation to mercy." The unwillingness of Judge Bedford to entertain the latter clause of the verdict is to be seen in the request made of one of the District Attorneys to state the antecedents of the prisoner, which proved him to be a deep-dyed criminal, and one who had been prac-

tising child-murder for years. The jury on hearing this, to their credit be it said, to a man withdrew the recommendation; and the Judge, in passing sentence, made use of the following language, which, coming as it does from one who not only means what he says but has the power, the determination, and the courage to enforce such promises, is encouraging to every right-minded citizen:—

"The people may rest assured that the District Attorney, Recorder, and myself will give, on all proper occasions, every assistance to crush out this monstrous crime and to banish from our midst these traffickers in human life. In one word, the authorities have declared war to the bitter end against the fraternity which you to-day so guiltily represent. Let every professional abortionist, male and female, rich or poor, in this city take warning, for, on conviction, their fate shall be the same as yours—namely, confinement in the State Prison for the period of seven years, the longest term allowed under the statute."

Thus endeth the first case of conviction for many a long year; and may we not hope, in the interests of future generations of innocents, that it may be the commencement of a rule of terror with the numberless abortionists who have heretofore carried on their trade with a boldness that has only been equalled by its wickedness.

The only pity, is that the law is not stringent enough to give the full measure of punishment to these malefactors. Let this circumstance be taken into account in the framing of the new law for the punishment of the crime now before the legislature. State Senator Norton, who we understand gives notice of the introduction of such a bill, will serve the community acceptably by fixing the penalty equal to that of burglary at least. In the enormity of the crimes there is no comparison now as to the severity of the punishment.

THE close of the present volume reminds us of the many obligations we owe to our numerous contributors, friends, and subscribers. We have been much encouraged by their substantial support, and hope to merit them more the coming year. It is but an act of justice to state to our readers that Dr. John Winslow has during the past year prepared the reports from the County Medical Society, and that Dr. Bradford S. Thompson has prepared those from the Academy of Medicine, and has likewise given us valuable aid in the department of Progress of Medical Science. In this latter department Drs. James B. Hunter and A. N. Brockway have rendered us signal service.

Reviews and Notices of Books.

PRACTICAL OBSERVATIONS ON THE ÆTIOLOGY, PATHOLOGY, DIAGNOSIS, AND TREATMENT OF ANAL FISSURE. By WILLIAM BODENHAMER, A.M., M.D. Illustrated by numerous cases and drawings. New York: William Wood & Co., 61 Walker st. 1868.

THE author of this work does not lay claim to any new or startling views regarding the disease of which he treats, but he does claim to furnish the profession with a systematic and practical treatise on the subject. He is of opinion that much is still to be learned in regard to anal fissure, but he endeavors to set forth in as brief a manner as possible all that is known about it at the present time. Hence he has given all the methods of treatment from the earliest times, ending with that which, according to his own experience, he deems best. The first chapter gives a comprehensive review of the history of anal fissure, with a definition of the term, and the means of distinguishing between anal spasm and fissure. In the second chapter the term is more fully defined, and the disease is carefully described. The third chapter takes up the ætiology of fissure; and the fourth gives a classification of the disease according to its anatomical and pathological characters, with its symptoms and means of diagnosis.

The fifth chapter is an excellent résumé of the various methods of treatment, including precautionary and palliative measures. The treatment recommended by the author, and practised by him for twenty-five years, consists, in brief, of topical medication combined with dilatation and sometimes incision or scarification. "The chief indication," he says, "in the treatment of anal fissure, is to modify the surface of the ulcer and transform it into a simple or a common sore, which then, under ordinary circumstances, will heal like any other solution of continuity." As an application, the author has obtained the most uniform and satisfactory results from nitrate of silver, in a solution of one drachm to the ounce. He has also employed *liquor potassæ*, which allays the irritability in an astonishing manner, but does not leave the parts in so favorable a condition for cicatrization as the silver. Where dilatation is necessary he has decided objections to forcible laceration by the thumbs, which operation he considers dangerous and uncertain. In the worst cases he believes it only necessary to incise the mucous membrane and submucous cellular tissue, in order to effect all that is claimed for the more formidable operation of dividing the anal sphincters by stretching or by the knife. On this point, as our readers are aware, there is much difference of opinion among able and experienced surgeons. The experience of Dr. Bodenhamer, who reports in his concluding chapter a large number of cases satisfactorily treated, certainly gives some weight to his opinions in regard to a disease to which he has devoted so much attention.

THE AMERICAN JOURNAL OF OBSTETRICS AND DISEASES OF WOMEN. Edited by DRS. B. F. DAWSON, NOEGGERATH, and A. JACOBI. Vol. I. and II. 1870.

THIS quarterly commenced its first issue in May, 1868, under the auspices of the leading obstetricians of this city, and many other equally eminent specialists abroad. The articles contained in the different numbers have been singularly good and of a thoroughly practical character, a fact which the profession at large have not been slow to appreciate. The care and discrimination of the working editor, who is also the proprietor, Dr. B. F. Dawson, has been one of the principal means to this end. The journal has in the future, as it has had in the past, our best wishes.

ON MORTALITY OF CHILDBED AND MATERNITY HOSPITALS. By J. MATTHEWS DUNCAN, A.M., M.D., L.R.C.S.E., F.R.C.P.E., F.R.S.E., Lecturer on Midwifery and Diseases of Women and Children in Surgeons' Hall Medical School; Clinical Lecturer on Diseases of Women in the Royal Infirmary, &c., &c., &c. N. Y. WM. WOOD & CO.

PROBABLY no living obstetrician is better qualified than Dr. Duncan to prepare a statistical work on the

mortality of child-bed. His own vast experience, both in public and private practice, has afforded him extraordinary opportunities for observation, and he is well known to the profession as an industrious and conscientious compiler of facts. On these facts, in regard to the mortality of child-bed, he bases his arguments upon subjects of controversy concerning hospitals and their management. He claims only that his book is an attempt to arrive at truths, and to use them justly in reaching sound conclusions and overthrowing those that are unsound. His objects in undertaking the work in question were two, one practical and the other scientific. The practical consideration was the defence of hospitals against unjust attacks and misrepresentations. The scientific object was the correction of the statement by Le Fort, that the mortality of women delivered at home is 1 in 212, while that of women delivered in hospitals is 1 in 29.

The author begins by recounting the difficulties in the way of obtaining reliable statistics as to deaths of child-bed, and shows the error that may easily arise from the record of deaths *in* child-bed as deaths *of* child-bed. A case of poisoning by laudanum, for instance, may be a death *in*, but not *of* child-bed. Deaths of child-bed proper he considers those occurring within four weeks from the beginning of labor, exclusive, of course, of those due to causes that would have operated alike if the woman had not been in child-bed. The author places under contribution all the reliable statistics that he can obtain, both of hospitals and of private practice, in all countries and under all circumstances. Many highly interesting facts are thus brought to light, regarding the duration of labor, age, and other conditions in their connection with mortality from puerperal fever. Many of the authorities quoted are allowed to speak for themselves, and the grand results of the author's labor are embodied in tabular form. He finds no ground, he says, for the awful suspicion that well-managed hospitals have caused a large, unnecessary, or avoidable mortality, or developed diseases previously unheard-of. The author, therefore, believes that maternity hospitals should exist, and he gives at some length his opinions as to their construction and management. This is the practical portion of his work, and it should be read and carefully considered by all who are connected with, or interested in, similar establishments. The energy with which Dr. Duncan defends his views is to be accounted for by the fact that he is discussing what has recently been a vexed question in Great Britain, and one that has elicited a general and spirited controversy.

SATAN IN SOCIETY. By a PHYSICIAN. Cincinnati and New York: C. F. Vent; Chicago: J. S. Goodman & Co. 1871.

WE mention this unclean volume only to condemn it in as few words as possible. It is one of those cunningly-devised and mischievous publications that under the guise of virtue and religion parade for the thousandth time the old story of universal masturbation, and attract the curious by disgusting advice about the bridal night, and topics of kindred interest. The writer, whoever he is, may well be ashamed to acknowledge the authorship of such a book, which we sincerely hope, for the good of the public, may prove an utter failure.

THE CAREER OF DENTISTS.—A dentist in Philadelphia has traced out the career of 1,000 dentists, with this result:—163 died before they reached middle life, 643 attained fair success, 57 made fortunes, 27 died from intemperance and other vices, 96 failed entirely, and 3 committed suicide.—*Boston Med. and Surg. Journal.*

Reports of Societies.

NEW YORK MEDICAL JOURNAL ASSOCIATION.

STATED REUNION, NOVEMBER 25, 1870.

DR. ISAAC E. TAYLOR, PRESIDENT, in the Chair.

SYPHILITIC LESIONS OF THE FINGERS AND TOES.

DR. R. W. TAYLOR read a paper upon this subject. He stated that he would treat only cursorily of the lesions of the primary and the secondary period; and he then briefly considered the chief clinical points of the initial lesion as seen upon the fingers; the various forms of secondary lesions of the nails; the appearance of the various syphilides in these localities; and finally he alluded to the occurrence of mucous patches. He desired especially to call attention to a rare form of syphilitic lesion of the fingers and toes, of which there were but five recorded cases, and of which during the past year he had had a case in his service at the New York Dispensary. This lesion, which had been improperly called "syphilitic panaris," was only very meagrely treated of in a few of the text-books, while most of the authors did not mention it. He thought the term *dactylitis*, from δάκτυλος, a digit, more appropriate than "panaris," a synonym of "paronychia, which fails to express the condition."

In this affection the nail is not attacked, but the deeper structures. The lesion is one of the tertiary period, and consists in an infiltration of the gummy material peculiar to that period of syphilis in the subcutaneous connective tissue, in the fibrous structures of the joints, under the synovial membrane, and in the bone. There is also, as a secondary consequence, impaired nutrition of the articular cartilages. An analysis of the recorded cases warrants their division into two varieties: the first variety, that in which there is very considerable deposit in the subcutaneous connective tissue and in the ligaments, and only a moderate amount of it in the bone; the second variety, that in which there is very little, if any, deposit under the integument, while in the deeper structures, particularly the bone, it is very copious.

In the *first variety*, the deposit of gummy material under the integument very much enlarges the digit attacked. The skin generally presents a slight violaceous color. The swelling may extend along the whole length of the finger or toe, or it may involve only a portion; the nail is not affected. It is developed slowly and painlessly, and at the same time a thickening of the capsule of the joint is observed, as well as a slight enlargement of the bone. This bony enlargement in the first variety is not extensive. The ligaments of the phalanx may become very much disorganized; and the mobility of the joint would then be very extensive in all directions, if the deposit in the integument did not give firmness. In all of the recorded cases the lesion of the ligaments has not produced any serious damage of these structures. As a result of the deposit of gummy material in the fibrous structures of the joints, the articular lamella of cartilage undergoes change, which is evidenced by a crepitation heard when the articular surfaces of two phalanges are rubbed together. Since this has never resulted in anchylosis, or disorganization of the joint, it is inferred that the affection of the cartilage is of a slight and transitory character, and due to the impairment of nutrition produced by the deposit in the ligaments from which the cartilage is partly nourished.

The gummy infiltration of the soft parts is commonly absorbed after having existed about six months. It is somewhat singular that in this locality the tendency is to gradual interstitial absorption rather than to degeneration and consequent ulceration. This is attributed to the abundant vascularity of the fingers and toes, and to the more highly cellular character of the gummy material here proliferated. The deposit in the ligaments is also absorbed slowly, and usually leaves them normal; but instances were quoted in which they were left preternaturally lax. The enlargement of the bones also gradually subsides.

The deformities produced by the first variety of dactylitis syphilitica are of two kinds: first, those of the period of progress of the lesion, in which the affected finger or toe is very considerably enlarged, and pushes those on each side of it out of their place; and second, those of the period of decline, in which, owing to slight destruction or absorption of some part of the joint-structures, the finger or toe is left in positions of greater or less superflexion or super-extension.

This first variety, as well as the second, occurs late in syphilis. It is usually a manifestation of profound syphilitic dyscrasia, and coexists with other lesions of a grave character—such as those of the integuments, bone, brain, and viscera. It may occur either in acquired or in hereditary syphilis.

The first variety, then, is characterized by the fact that the deposit is chiefly subtegumentary, involving the connective adipose tissue and not the derma; and while it very extensively involves the ligaments, it only produces slight changes in the bone. But stress was laid upon the fact that in every one of the recorded cases of this variety, the origin of the lesion was recognized early, and proper treatment immediately instituted; and it is difficult to say how far the lesion in the bone would have progressed if not treated thus early.

In the *second variety*, on the contrary, the deposit is chiefly in the bone, and when subtegumentary, which is very rare, it is not copious. In this variety the swelling may commence in an acute manner, involving the whole finger or toe, and then localize itself at one or more of the phalanges, which become very much enlarged out of proportion to the rest of the digit. The disease may attack either the first, second, or third phalanges, one or more of each; those of the fingers or toes alone, or those of both fingers and toes at the same time. Another method of invasion is by a slow, painless enlargement. The swelling in this variety is very great, so that, in one of the cases quoted, a finger at its first phalanx measured about five inches. The lesion here either may begin beneath the periosteum, and then infiltrate the bone, or may begin around the medulla, and from this focus infiltrate the cancellous tissue. In the latter case, this tissue becomes very much swollen, and expands the compact tissue and periosteum, which gradually yield to the pressure and form a wall. The lesions, then, are two, either a syphilitic periostitis or a syphilitic osteomyelitis.

The gummy material thus proliferated may undergo fatty change and interstitial absorption; or it may break down and be extruded. When it does not break down, it produces death of the portion of the bone infiltrated, or, as it is termed by Virchow, dry caries. The infiltrated bone is absorbed coincidently with the absorption of the gummy material, and no lesion of continuity is produced. Thus we may find that nearly a whole phalanx is absorbed without any perforation of the integument; or a part of a phalanx may be absorbed; or the whole phalanx may be much attenuated and shortened. Instances were given in which the middle third of a phalanx was destroyed while the proximal and distal thirds were left intact. In these instances the severed bone was joined together again by a fibrous band, which formed a false joint, very mobile; and, as a consequence, the finger was not responsive to volition. When the gummy material breaks down, it makes its way to the surface, forming a sinus, and escapes as a viscid fluid containing cheese-like flocculi and bony granules. This fluid, when it escapes from a part which has not been irritated, does not contain any pus, but exhibits under the microscope amorphous granular matter, and sometimes connective-tissue cells. Pus is not found in the sinus either, unless it has been irritated. This absence of pus is considered as somewhat diagnostic of syphilitic degenerations. The sinus also presents diagnostic points, as it does not show a tendency to become at its orifice thick, bluish, and everted, as in strumous fistulæ, but generally heals rapidly. One instance was quoted in which a sinus enlarged into an ulcer characteristic of syphilis.

The fibrous structures of the joints are involved in this variety, much as in the first. This variety sometimes presents a hydrarthrosis, which is probably due to deposit in the subsynovial connective tissue. An important symptom of this synovitis is the small amount or entire absence of pain. Though an effusion into the joint has not as yet been observed in the first variety of dactylitis, it was suggested that future observations might perhaps establish the fact of its occurrence.

The articular cartilage is also affected in this variety, the impairment of its nutrition being due to two causes: first, the lesion in the joint-capsule; second, the infiltration in the underlying stratum of bone. As a rule, reparative action begins before very serious disorganization is produced.

The integument suffers only secondarily in this variety. During the period of existence of the lesion, it is much stretched, and its natural folds are effaced; but upon the subsidence of the swelling, it gradually adapts itself again to the diminished size. An interesting case of this adaptation of the integument was related, in which a whole phalanx and part of a metacarpal bone had been destroyed, and yet there was not very much redundancy of skin. This adaptation is beneficial in giving steadiness to the fingers and toes. These lesions run a very chronic course, lasting two or three years, but are amenable to an antisyphilitic treatment.

The deformities are greater and more permanent in the second variety than in the first. In the period of progress, and in the stationary period of the lesion, the fingers and toes are very greatly enlarged and unwieldy, and they distort the adjacent digits. In the final stage the bone may be left either attenuated, or partially or wholly destroyed. It may be left also in a light or fragile condition; or local or general eburnation may be produced. The ligaments generally adapt themselves firmly to the bones, but they may be left very flaccid.

The *diagnosis* is of the utmost importance; for if the syphilitic origin is recognized, an appropriate treatment may be instituted, and will be beneficial; moreover, it will prevent the surgeon from resorting to operative procedures which are unnecessary. The principal affections with which the first variety of dactylitis syphilitica might be confounded are whitlow; gout, when the affection occurs in the great toe; and rheumatoid arthritis, if it attacks many fingers or toes, and especially if it involves the larger joints of the body at the same time. Enchondroma and exostosis also

might possibly be mistaken for this lesion. The second variety of dactylitis is to be diagnosticated from the so-called strumous disease of bone. This latter is prone to attack bones very rich in cancellous tissue; such as those of the carpus and tarsus, and the expanded extremities of the long bones. Besides, in cases of dactylitis a history of syphilis can generally be elicited, or the presence or traces of other syphilitic lesions can be observed.

The *treatment* is that of the tertiary period of syphilis.

STATED REUNION, JANUARY 20, 1871.

DR. S. T. HUBBARD, PRESIDENT, in the Chair.

PNEUMONIA IN ITS RELATION TO OPERATIONS.

DR. H. P. DEWEES presented a paper upon this subject, which he had read at a meeting of the Medico-Chirurgical Society, of this city, nine or ten years before. He wished to claim that date for the ideas advanced in the paper concerning the frequent nervous origin of inflammation and other disorders of nutrition; the frequent development of phthisis as a consequence of pneumonitic processes, or of the introduction of septic matter into the circulation; and the distinction between these forms of phthisis and the tubercular form. The clinical history, pathology, and treatment of pneumonia, both ordinary and secondary to wounds and operations, were discussed at length, the pathology with special reference to the points above named. Our limits preclude any complete analysis of the views expressed, as the paper will probably soon be published; and we simply state the series of questions proposed for further investigation:

"1. What relative frequency exists between operations on the upper and on the lower half of the body, as regards the intercurrence of pneumonia or pleurisy?

"2. After operations, are the upper or the lower lobes of the lungs more subject to inflammation?

"3. Does pleurisy supervene as frequently in intercurrent as in ordinary pneumonia?

"4. Does the side operated upon influence the site of the intercurrent pneumonia; or does double pneumonia occur more frequently when both sides are operated on?

"5. Is gangrene of the lungs a more frequent occurrence in intercurrent than in ordinary pneumonia?

"6. Does abscess occur oftener in traumatic than in ordinary pneumonia?

"7. Is rigor or vomiting as frequent a premonitory symptom in intercurrent as in ordinary pneumonia?"

DR. BUCK was asked to give his experience upon these points, and replied that it was simply negative. He had not observed that operations on the upper extremities differed at all from those on the lower in their liability to be followed by pneumonia; and he had met with nothing upon that point in his reading. He could say the same as to the seat of pneumonia after operations. Gangrene of the lung was an affection of very rare occurrence; and the few cases that he had seen were not connected in any way with wound or operation.

DR. J. C. PETERS thought the pneumonia attributed to operations might often be really chargeable to the exposure of the patient during the operation and in the subsequent dressings. He had observed the case of a woman, who, after an operation upon the right side of the body, did well for two weeks, when suddenly, without apparent cause, she began to be feverish and to be troubled with extreme and persistent nausea. This continued for forty-eight hours. At the end of that time a slight cough led to examination of the chest, which discovered well marked pneumonia in the upper lobe of the right lung. The interesting point in the case was the prolonged and incessant nausea, which had at the time been attributed to a dose of chloral-hydrate administered. Not until the mention of it in Dr. Dewees's paper had the speaker been aware that this was a frequent symptom of the invasion of pneumonia.

DR. DEWEES thought that exposure had commonly less to do with the pneumonia consequent upon operations than had two other conditions—depression of the nervous system, and septicæmia. The incipient stages of pneumonia in these cases were too apt to be overlooked, the patient's condition being attributed by the surgeon to other causes.

DR. WHITEHEAD referred to the frequency of pneumonia, and of metastatic abscesses in the lungs and other organs, after wounds of the head. Dr. Dewees had objected to the use of carbonate of ammonia in pneumonitis, because the blood was commonly overcharged already with ammonia, which the lungs were exhaling, as a rod dipped in muriatic acid and held before the nostrils would show. With reference to this point he would call attention to the striking experience of Dr. Patton in favor of the ammonia-treatment, reported in *Am. Journ. Med. Sci.*, Oct., 1870. In his own hands a combination of chloride of ammonium, chlorate of potassa, and camphor-water, had proved very serviceable.

DR. BURRALL thought Dr. Dewees had too strongly condemned the use of opium in this disease. Judiciously employed, it was often of the greatest value. There was great danger in allowing the patients, when convalescing, to rise too soon, especially aged patients. Cases of sudden death occurred from it.

DR. A. H. SMITH doubted whether, between an injury or operation, and the consequent pneumonia, there was always or commonly the intermediate condition of embolism, or of ichoræmia, which had been referred to. Pneumonia often followed very superficial burns, where neither of these conditions could be supposed to exist. The channel of influence was far more likely to be the nervous system than the circulatory. The pneumonia after injuries often attacked large portions of the lung simultaneously, therein differing from the circumscribed inflammation caused by an embolus. The frequent occurrence of the affection after injuries of the head tended to support the view of its nervous causation.

DR. DEWEES said that the duodenitis long known to result from burns was especially apt to follow those of the parts supplied by nerves from the middle cervical to the second dorsal. He had no doubt that many affections of the abdomen, whether inflammatory, atrophic, or neoplastic, had their origin in the solar plexus.

ANAL SPECULUM.

DR. WHITEHEAD presented a self-retaining bivalve anal speculum, or dilator. The blades were three or four inches long, having bulbous extremities designed to pass just beyond the internal sphincter. From the outer end of either blade, and nearly perpendicular to it, extended an arm, to meet its fellow in a hinge-joint. The arms were separated by a screw. The instrument might be used, if desired, for rupturing the sphincter, though for this the Doctor preferred the fore and middle fingers of each hand. He employed it chiefly to dilate the anus gradually and painlessly, preparatory to the introduction of Sims's duckbill speculum.

DONATIONS TO LIBRARY.

Dr. Peters stated that he had obtained from the "Society Library" a large number of volumes, in exchange for some files of rare old newspapers presented to the Association by Dr. Purdy. On motion, he was authorized to continue his efforts for the increase of the library, which already numbered some two thousand volumes of reference; and donations of books, papers, etc., suitable for the library or for exchange, were solicited.

The meeting adjourned.

NEW YORK MEDICO-LEGAL SOCIETY.

Regular Meeting, January 12, 1871.

Dr. Stephen Rogers, President, in the Chair.

IS CONFESSION EVIDENCE OF GUILT?

Dr. Wm. A. Hammond read a paper upon the *Medico-Legal Value of Confession as an Evidence of Guilt.* The following is an abstract:

It is a very wide-spread opinion that the confession of a person accused of an offence is the best possible evidence of his guilt—an opinion not only entertained by the community at large, but also held by common and statute law, and enforced by numerous judicial decisions. Copious extracts from legal writers were quoted in proof of this statement.

It is now, however, a well recognized principle that a confession, to be of any legal value, must be made without constraint, and without any promise of reward or immunity. But this is a modern refinement. It is not long since supposed criminals were tortured to extort confession; and even now how often do we see a parent or master resorting to torture in one form or other to wring a confession from child or servant.

The existing laws on this subject seem to be based on the principle that a man's eagerness to preserve life, health, liberty, property, is so overpowering that he is not likely, if innocent, to say anything to jeopardize any of these; and that, consequently, if he does confess to any crime whose punishment he knows to be death, mutilation, imprisonment, forfeiture of estate, he must be speaking the truth.

But a glance at criminal history proves it to have been no uncommon thing for persons to confess to offences of which they were either certainly or probably innocent; proves that there are often forces operating in the mind which impel to a false confession, even though life, liberty, or property be thereby endangered. Look at the thousands who, not so long ago, confessed to being witches and holding converse with the devil, although they knew that their confession was consigning them to torture or death. Look at the numbers who, in times of great public excitement about any crime, come forward and proclaim themselves the criminals, when the slightest investigation proves them liars. Look at the numbers who have confessed to crime, for the sake of shielding the really guilty from punishment. Again, look at the cases, so often met with by physicians, where the false confession of some heinous crime is the first observed evidence of mental derangement.

A few years since, a case came before the English courts so remarkable as to justify its discussion here at length. [We have space for only the briefest statement of this case, and of the Doctor's comments, referring the reader, for details, to the paper itself, in the forthcoming (April) number of the *Psychological Journal.*] On the morning of June 30, 1860, Francis Saville Kent, a boy of four years, was found murdered in an out-house on his father's premises. Circumstances made it certain that the murder must have been committed by some member of the household, or by some one secreted in the house before the family retired for the night. The family, including servants, consisted of twelve members. Suspicion fell in turn upon Mr. Kent, the father, Elizabeth Gough, the nurse, and Constance Emily Kent, a daughter of Mr. Kent by a former wife; but, on their examination, no evidence was found against any of them sufficient to warrant commitment for trial. The young lady bore herself remarkably well during the examination, and apparently with the consciousness of perfect innocence. For the two years subsequent to this she went to school, and then, entering a semi-conventual order, remained in seclusion till the spring of 1865, when she voluntarily came forward and declared herself guilty of her brother's murder, and was committed for trial. At the trial she pleaded guilty to the indictment of wilful murder; and on her plea alone, without further evidence, and without the case being sent to the jury, she was sentenced to death.

"Thus, without any inquiry into the character of the influences which had been brought to bear upon her, the tendencies of her disposition while in the religious institution, the sanity or insanity of her mind, her antecedents, or any other point which might have served to throw light upon the case, to lessen her criminality if really guilty, or to weaken the force of her plea if innocent, Constance Kent left the court convicted of the highest crime known to the laws of man. If innocent, her case is one more added to the long list of others—monomaniacs, ecstatics, enthusiasts, hysterical persons, and liars—who have confessed to the commission of offences which they did not perpetrate. If guilty, she is, so far as I know, the solitary instance of an individual confessing to a crime and being sentenced to death upon no other evidence than that admission. Men and women before this, in the face of overwhelming testimony against them, or whilst in a drunken debauch, or on their deathbeds, or standing on the scaffold with no hope of escape, or unintentionally . . . . have confessed their crimes; but if any criminal of sane mind has ever yet voluntarily supplied all the evidence which could consign him or her to an ignominious grave, the case has escaped my observation."

Was she guilty? At the time of the murder she was in her sixteenth year, and had always been accounted a child of sluggish intellect. Her mother had died a lunatic several years before. At the trial she is described as a very plain young woman, with a broad, uninteresting face, expressive of stupid dulness rather than of intelligence, and with none of the shrewd cunning which would seem to have been necessary to commit such a crime and so successfully conceal it. That there was no other evidence of her criminality than her own confession may be fairly assumed from the fact that none was adduced. Had any even suspicious circumstances been discovered, they would not have been allowed to sleep for five years in a community so alert to bring every criminal to justice. During her two years at school, her eccentricity of demeanor was a matter of common remark. During the three years in the *quasi* convent, it is reasonable to suppose that she was subjected to influences calculated to exalt her cerebral sensibility, already abnormal from hereditary predisposition and the terrible experience through which she had passed. She knew that she was suspected. She brooded over the suspicions which had followed the nurse and her

father, driving the one from honest employment, and making the other a broken-hearted and ruined man. She had been taught that self-mortification was the highest privilege of the Christian. Suppose that she had entered the convent fully conscious of innocence; would it be strange if she had finally come to believe herself the murderess, and to think it her duty to relieve those she loved of unjust suspicion by taking the whole guilt upon herself?

It is a matter of daily observation that an idea persistently impressed upon the mind comes at last to be considered as true, no matter how improbable or preposterous it may be. The teller of wonderful stories comes to be unable to distinguish between his experiences and the productions of his imagination. Children often confound their dreams with realities, and are not rarely punished for lying when they fully believe they are relating facts. Hysterical women do the same, as every physician knows.

Mere desire for notoriety will lead men to proclaim themselves gigantic criminals, as in a case which had lately come under the speaker's observation, where a man had persuaded the authorities at Washington that he was a member of a gang of counterfeiters which embraced many most respectable citizens, some of them high in office. On careful cross-examination the man's statements were found contradictory; he was considered subject to a delusion, and was sent to a lunatic asylum. It seemed probable that it was the desire to become notorious which had first undermined his reason. "Do we believe that Father Gaufridi was guilty of bewitching more than a thousand women, and of worshipping the devil, because he confessed these things, and was burned at the stake in expiation of his self-imposed crimes? Do we credit the acknowledgment of Sister Marie de Sains, that she had committed hundreds of murders, strangled numberless children, ravaged graves, breakfasted with devils, and perpetrated thousands of unheard-of sacrileges and barbarities?"

Confession, then, is no sufficient evidence of guilt, and should not be admitted unless confirmed by collateral evidence. Indeed, the legal practice of requiring the accused to plead at all is one that should be abolished.

If the will cannot resist physical torture, and men will confess to anything in order to escape from the present suffering, may we not, in all certainty, apply the same principle to mental torture, or to the overwhelming influence of some ungratified desire, such as may have pressed with resistless force upon the mind of Constance Kent?

But now let us suppose that she did commit the crime, was she fully accountable for it? She was at the most susceptible period of a woman's development, when likes and dislikes are born of the most whimsical fancies, yet often develop a strength beyond the woman's control. We know that even adult men, under a transient attack of cerebral congestion, may become totally transformed, and commit acts which, when the attack is passed, fill them only with horror. At the time of the great change in woman's organism, she is peculiarly liable to derangements of circulation, and specially susceptible to influences that may bring about abnormal cerebral conditions. To hold her accountable for all the results of these conditions is as reasonable and just as it would be to make her responsible for a club-foot or a twisted face. Though the law, instituted for the protection of society, may not recognize this, yet in the interest of strict justice it must be borne in mind, as we may be sure it will be in the Court whose judgment is infallible. If Constance Kent really killed her brother, it must doubtless have been under the impulsion of some such insane condition; and the skill and cunning which enabled her to cover up completely her connection with the deed, and to bear herself so admirably through a searching examination, could hardly have been other than those begotten of (perhaps transient) insanity. Something of the force of these considerations would seem to have impressed the authorities, for her sentence was afterwards commuted to transportation for life.

Mr. Cranfield alluded to a case which happened in Maine some years ago. A man was suddenly missing, and there were strong suspicions of foul play. Two men came forward, confessed to having murdered him, and were about to be hung for it, when their supposed victim turned up alive.

Dr. Miller endorsed the positions taken by Dr. Hammond. One of the things most surprising to the young law-student was to learn the insufficiency of confession, in many cases, as evidence of guilt. It was indispensable that it be made without promise or expectation of reward, or of favor; this was the doctrine now held by the courts. An innocent man is charged with a crime; popular feeling is strongly against him; he is poor, sees all his prospects blighted, and knows not which way to turn. Some friend whispers that if he will only confess, influence may be brought to bear to clear him; and too often he yields to the temptation. There were numerous cases on record of confession simply for the sake of notoriety—for the name of being a great criminal. Every one knew how anxious were the friends of the Artful Dodger that he should have a good record at Newgate. Not less frequent were the instances of confession to save a friend. One was cited in which a man confessed to a murder in order to give the real criminal time to flee the country. When his trial came on he proved an *alibi*. It was very probable that Constance Kent was moved to confession by her sympathies, to restore her father's ruined reputation.

Dr. O'Dea dwelt upon the effect of two principles contending for the mastery in the mind of the criminal—that of self-preservation and that of remorse—the former leading to concealment, the latter to confession. Undoubtedly it was the rule that a murderer's first feeling, after his crime, was fear of the law; and the cases where confession had been instigated by remorse alone were the rare exceptions. Indeed, so firmly implanted was the instinct of self-preservation, that voluntary confession of a capital crime carried on the face of it strong doubt either of the man's truthfulness or of his sanity. The motives prompting to confession were sometimes very curious. It was said that a poor man from the country gave himself up as the murderer of Mr. Nathan, in order to get free transportation to the city, to see his friends—knowing that he could then prove his innocence.

The meeting adjourned.

A New Stethoscope.—Dr. H. J. Wiesel, of Wheeling, Va. (*Pacific Med. and Surg. Journal*), presented to the notice of the West Virginia Medical Society a stethoscope, composed simply of a wooden ovoid cylinder, 1¼ inches deep. One end is covered by a cushion to fit the irregularities of the head, and an elastic band is passed around the forehead to hold it in its place. He claims for it the following advantages: 1st. It is portable; 2d. It does not obstruct the ear; 3d. All mechanical sounds are excluded; 4th. It combines the mediate and immediate methods of auscultation.

New Instruments.

A NEW NEEDLE FOR INTRODUCING THE SUTURES IN RUPTURE OF THE PERINÆUM.

By ALEXANDER J. C. SKENE, M.D.,

PROFESSOR OF DISEASES OF WOMEN AND CLINICAL OBSTETRICS IN THE LONG ISLAND COLLEGE HOSPITAL, BROOKLYN, N. Y.

Rupture of the perinæum has claimed much of my attention, from the fact that cases suffering from this accident are numerous,—much more so than is generally supposed by the profession.

The immediate effects of the injury are so trifling that they are apt to excite but little attention from the physician or patient at the time when it occurs. The trouble usually passes unnoticed until the secondary results, in the form of *prolapsus uteri*, compel the patient to seek relief.

In reviewing my records in the Long Island College Hospital, I find many cases, variously complicated, the report of which could not fail to be of interest to the profession. It was my intention to prepare such report at an early day. But the ground has been recently so thoroughly occupied by an able and exhaustive article on the subject, in the *National Medical Journal*, by Prof. Thompson, of Washington, D. C., that it is only left for me to heartily commend what he has so ably and clearly written.

He has more fully recognized in his excellent article on the subject, not only the frequency of the accident, but the absolute necessity for surgical treatment, than in any paper that has come under my observation; and the history of the many cases he has published shows that his plan of treatment is eminently successful. I have repeatedly practised his method of operating, and can confidently state that it is all that is claimed for it.

His method of operating, I may here state for the benefit of those who have not read the paper, is, in many respects, similar to that of Barker Brown. It differs from it, however, in what I regard as three important points.

1st. He does not divide the sphincter muscle unless the rupture is complete; that is, running through into the rectum; but he paralyzes it by forcible distension.

2d. In place of confining the bowels, which is often difficult during the whole process of healing, he encourages them to move freely, and finds that no evil arises therefrom.

3d. To secure the ends of the deep sutures he uses silver tubes of considerable size, perforated at short intervals, through which he draws the wires, and secures the ends with perforated shot.

This makes a complete operation, every part of which is easily performed, excepting the introduction of the deep sutures; this I have found, I presume in common with other surgeons, often very difficult. I have used the long needle, which is carried in on the left side, curved round, and made to come out on the right, with one sweep; but that is by no means easy to do. I have also used the short needle, carrying it through the left side into the vagina, seizing it there, and bringing it through the right side from within outward; but this also is an awkward manœuvre. By neither of these methods have I been able to get all the stitches exactly as I desired to have them.

Some unusually expert operators may succeed well by either of these methods; but I presume the majority of surgeons have, like myself, found great difficulty in introducing the sutures with accuracy and facility in this way.

With a view to overcoming the obstacles so frequently encountered in the operation, I have devised a needle represented in the accompanying wood-cut. It is about four inches long and slightly curved towards the point. The eye, which is about three-eighths of an inch from the point, has a groove on each side, running longitudinally both ways, and of sufficient depth for the wire to lie in it when being introduced. There is a small notch, cut from the circumference into the eye, large enough to admit a medium-sized silver wire. Through this notch a loop of the wire is carried into the eye, and the ends are pressed into the grooves and carried back through a notch in the handle, which holds them so that the loop cannot slip out of the eye.

The needle thus armed is entered on the left side at the proper distance from the edge of the fissure, and carried through so as to emerge on the vaginal surface. The loop of the double wire is then lifted out of the needle's eye, through the notch, with the tenaculum or finger-nail, and held while the needle is withdrawn. The needle is then introduced, unarmed, on the right side, at a point corresponding exactly to where the wire is located on the other side. The loop of wire projecting on the vaginal surface is then hooked up and carried into the eye of the needle through the notch. The needle is then withdrawn and the wire brought with it. In other words, the double wire is carried through the one side in the same way that the thread is put through cloth by the sewing machine needle, and it is brought out through the other side in the way that a stitch is made with the crochet-needle.

When all the sutures required are introduced, the ends are secured on the right side by passing a piece of gum-elastic catheter through the loops; or, what is better, a piece of hard rubber, oval in shape and notched on the edges at short intervals, into which the loops are carried. The sutures, thus secured at one end, are properly adjusted and tightened, and the loose ends on the left side are brought around another catheter or piece of rubber, and made fast by twisting.

It will be observed that I use *double wire*, believing that it is less liable to cut than the single wire. But the single wire, if preferred, may be used as easily with this needle.

The superficial sutures are introduced in the usual way; but in place of using wire or silk, I employ *horse-hair*, which I consider superior to either of the others, being more easily manipulated than wire, and not liable to cause irritation, even when left in for many days.

The facility with which I have been able to introduce the sutures with this needle in the heretofore rather troublesome operation for *rupture of the perinæum*, has induced me to make it public, believing that others who have met the same inconvenience as myself, will find the instrument both useful and convenient.

Fears were entertained that the notch would catch in the tissues, and thereby obstruct the introduction of the needle, but practically this has not given me any trouble.

Mr. Stohlmann, of the firm of Tiemann & Co., where the instrument was made, suggests that this needle would answer admirably for the operation of cleft palate and similar operations; but as I have no experience in such operations, and do not expect to have any, I shall leave it to others to test its value, if, in their estimation, it possesses any, in this branch of surgery.

Obituary.

PROF. GEORGE THOMSON ELLIOT, M.D., New York.

Dr. George Thomson Elliot was born in the city of New York, May 11, 1827. He graduated at Columbia College in 1845, and immediately began the study of medicine under Dr. Valentine Mott. He attended lectures in the Medical Department of the University of New York, and graduated in the spring of 1849. After six months' service in the New York Hospital he went abroad, and served six months as interne in the Dublin Lying-in Hospital, and seven months as resident pupil in the Dreadnaught hospital ship, London. During a residence of three years abroad he continued the study of medicine in various hospitals of Europe. On his return to New York he passed two years as resident physician in the New York Lying-in Asylum. After leaving the Asylum he at once began practice in New York, in 1853.

Dr. Elliot was appointed physician to Bellevue Hospital in 1854. He was also visiting physician to the N. Y. Lying-in Asylum; visiting and consulting physician to, and one of the founders of, the Nursery and Child's Hospital; for two years he held the position of physician for diseases of the skin and diseases of women and children, at the Northern Dispensary; and he subsequently had the same appointment at the Demilt Dispensary. For one term (1855) he held the position of Professor of Anatomy in the Vermont Medical College, For many years he was assistant to Professor Gilman, in the College of Physicians and Surgeons. Since 1861 he had been Professor of Obstetrics and Diseases of Women and Children in the Bellevue Hospital Medical College, in conjunction with Professors Taylor and Barker.

He was corresponding member of the Edinburgh Obstetrical Society, and of the Royal Academy of Havana. He had also been Secretary and Vice-President of the New York Pathological Society, and was President of the New York County Medical Society at the time of his first apoplectic seizure, June 9th, 1870. At the time of this attack he was attending, in consultation with Professor Thomas and Swift, a bad case of thrombus. When the news spread among his professional friends little hope was entertained in regard to his recovery, and his death was painfully expected day by day. He rallied, however, and was able to spend in comparative comfort, and with many promises of ultimate improvement, several months in retirement at Garrison's on the Hudson.

His ambition for active service in his profession compelled him to return to this city. The excitement incident to this course culminated Jan. 29th in a second attack, the effusion of an immense clot in the ventricles and cord, which terminated in instant death.

It is useless for us to speak of the good qualities of Prof. Elliot as a scholar, a clinical teacher, a lecturer, and a writer. In all these he excelled, blending them in the character of a noble, upright, conscientious man, and a good, faithful, and beloved physician.

WILLIAM BURR BIBBINS, M.D., New York.

Dr. William Burr Bibbins was born in Fairfield, Connecticut, in 1823; graduated at Yale College in 1845, and at the College of Physicians and Surgeons of New York in 1849. He served as House Physician in Bellevue Hospital in 1849, and as Assistant Resident Physician in the Nursery Hospital on Randall's Island in 1850. From 1852 to 1863 he was Visiting Physician to Demilt Dispensary. He was an active member of the N. Y. County and Pathological Societies—Treasurer of both, as well as President of the latter. His death, which was due to typhoid fever, occurred on Jan. 16, 1871.

As a physician Dr. Bibbins was not remarkable for any specially brilliant qualities, but he possessed in a high degree the rarer ones that inevitably command esteem and ensure success. He was an earnest, conscientious toiler in the field of labor he had chosen. He regarded medicine as a sacred calling, and to it he devoted all his energies and all his talents, making the welfare of his patients ever his highest aim. He had the happy faculty of winning and retaining the entire confidence of all who consulted him.

To much professional skill, he united a kind and courteous demeanor alike toward rich and poor, and a genuine practical benevolence that sought to relieve human sorrow in every guise. His life was active, useful, and blameless, and he will long be mourned by a host of friends.

ARMY AND NAVY NEWS.

Official List of Changes of Stations and Duties of Officers of the Medical Department, United States Army, from January 4th, 1871, to January 17th, 1871, inclusive.

Mechem, A. F., Surgeon.—By par. 1, S. O. No. 8, Headquarters Department of the Missouri, January 12th, 1871, granted leave of absence for thirty days, on Surgeon's certificate of disability, with permission to go beyond the limits of this Department; and by par. 2, same order, relieved from duty at Fort Hays, Kansas.

Tilton, H. R., Assistant Surgeon.—By S. O. 386, Headquarters of the Army, A. G. O., Dec. 31st, 1870, leave of absence extended sixty days.

Brewer, J. W., Assistant Surgeon.—By S. O. No. 3, Headquarters Department of the Missouri, January 4th, 1871, granted leave of absence for thirty days, on Surgeon's certificate of disability, with permission to go beyond the limits of this Department.

Delany, Alfred, Assistant Surgeon.—By par. 2, S. O. No. 8, Headquarters Department of the Missouri, January 12th, 1871, assigned to duty at Fort Hays, Kansas.

Hall, Jno. D., Assistant Surgeon.—By S. O. No. 2, Headquarters Military Division of the Pacific, January 4th, 1871, granted leave of absence for sixty days, on Surgeon's certificate of disability, with permission to go beyond the limits of the Department in which he is serving.

Bill, Jos. H., Surgeon.—By par. 30, S. O. No. 385, War Department A. G. O., Dec. 31st, 1870, at his own request, under provisions of act of Congress, approved July 15th, 1870, sec. 3, honorably discharged the service of the United States.

Marsh, E. J., Assistant Surgeon.—By par. 28, S. O. No. 385, War Department A. G. O., Dec. 31st, 1870, par. 3, S. O. No. 209, c.s. from A. G. O., accepting his resignation, is revoked; and he is, at his own request,

under provisions of act of Congress, approved July 15th, 1870, sec. 3, honorably discharged the service of the United States, to date Aug. 17th, 1870.

POPE, BENJ. F., Assistant Surgeon.—By par. 30, S. O. No. 385, War Department A. G. O., Dec. 31st, 1870, at his own request, under provisions of act of Congress, approved July 15th, 1870, sec. 3, honorably discharged the service of the United States.

MILLS, M., Surgeon.—By S. O. No. 39, War Dept., A. G. O., Jan'y 28, '71, upon being relieved by Surgeon Perin, to report by letter to the Surgeon-General for assignment to other duty.

PERIN, G., Surgeon.—By S. O. No. 39, War Dept. A. G. O., Jan'y 28, '71, to report to the Com'd'g General, Dept. of the Missouri, for duty as Medical Director of that Department.

MECHEM, A. F., Surgeon.—By. S. O. No. 40, War Dept., A. G. O., Jan'y 28, '71, granted leave of absence for six months on Surgeon's Certificate of Disability.

STORROW, A. S., Asst.-Surgeon.—By S. O. No. 46, Headquarters of the Army, A. G. O., February 1, '71, leave of absence extended thirty days.

PHILLIPS, H. J., Asst.-Surgeon.—By S. O. No. 5, c. s., Headquarters Mil. Div. of the Pacific, granted leave of absence for thirty days.

MIDDLETON, P., Asst.-Surgeon.—By S. O. No. 43, War Dept., A. G. O., Jan'y 31, '71, relieved from duty in Dept. of Arizona, and to report to the Com'd'g General, Dept. of the South, for assignment to duty.

MACKIN, C., Asst.-Surgeon.—By S. O. No. 9, c. s., Headquarters Dept. of the Platte, upon being relieved by Asst.-Surgeon O'Reilly, to proceed to Fort Kearney, Neb., for duty at that post.

O'REILLY, R. M., Asst.-Surgeon.—By S. O. No. 9, c. s., Headquarters Dept. of the Platte, assigned to duty at Sidney Barracks, Neb.

ROSE, GEO. S., Asst.-Surgeon.—By S. O. No. 6, Headquarters Dept. of California, Jan'y 9, '71, relieved from duty at Alcatraz Island, and assigned to Benicia Barracks, Cal.

MICHLER, W. H. H., Asst.-Surgeon.—By S. O. No. 37, War Dept., A. G. O., Jan'y 27, '71, relieved from duty in the Dept. of the Missouri, and ordered to report to the Com'd'g General, Dept. of the Platte, for assignment.

Medical Items and News.

THE NEW JERSEY CITY PATHOLOGICAL SOCIETY was organized at the office of Dr. T. R. Varick, on Wednesday evening, Dec. 28th, 1870.

The Constitution and By-laws adopted are essentially the same as those of the New York Pathological Society.

The stated meetings are to be held at eight P.M., on the second and fourth Thursday of each month, and, for the present, will be at the office of Drs. Watson and Wolfe, 129 Warren street.

The following is a list of the Officers of the Society for the year 1871:

President, Dr. J. E. Culver; *Vice-President*, Dr. M. A. Miller; *Secretary*, Dr. H. S. Gardiner; *Treasurer*, Dr. Henry Mitchell; *Editor*, Dr. Theo. F. Wolfe.

THE DEATH OF PROF. GEO. T. ELLIOT.—At a stated meeting of the New York Academy of Medicine, held February 2, 1871, the following resolutions were unanimously adopted:—

Whereas it has pleased Almighty God, in His infinite wisdom, to remove from us our fellow-member, George T. Elliot, M.D.; therefore, be it

Resolved, That while we bow in submission to the Divine will, we deeply deplore our loss.

Resolved, That in the death of our lamented associate, we recognize the loss of one whose brilliant talents, high moral character, sterling worth, and scientific attainments rendered him an ornament to his profession and to this Society.

Resolved, That we deeply sympathize with the relatives of our deceased brother in their irreparable loss and great affliction.

Resolved, That a copy of these resolutions be published in the Medical Journals of this city, and a copy be transmitted to the family of the deceased.

W. T. WHITE, M.D., Secretary. E. R. PEASLEE, M.D., President.

BELLEVUE HOSPITAL, Feb. 1, 1871.

The Committee appointed to prepare resolutions expressive of the sentiments of the members of the Medical Board of Bellevue Hospital, on the occasion of the death of our associate, the late Dr. George T. Elliot, submit the following:—

Resolved, That in the death of our honored and beloved associate, we have to deplore one who was justly distinguished as a learned, skilful, and accomplished physician, who exemplified an irreproachable life and the virtues of a good citizen; who, in his social relation, was eminently refined, genial, and brilliant, and who was a sincere, devoted, and reliable friend. Removed from us at an age when many more years of active usefulness were to be hoped for, all who have been associated with him will ever hold in cherished remembrance his superior mental endowments, his varied attainments, and the still higher moral qualities which rendered him not less endeared than admired.

Resolved, That as members of this Board, we mourn the loss of a colleague whose counsel and efficient aid in furtherance of the cherished objects of Bellevue Hospital, and in behalf of medical education, have been invaluable, and that, as a slight testimonial of the respect of the Board for his memory, a portrait or bust be procured, to remain permanently in the room in which the meetings of the Board are held.

Resolved, That we tender to the family and relatives our heartfelt sympathy in the bereavement with which an all-wise and beneficent Providence has seen fit to afflict them.

ISAAC E. TAYLOR, M.D., *President*.
A. FLINT, JR., M.D., *Secretary*.

Resolved, That in the death of Dr. Geo. T. Elliot, the Faculty of the College have to deplore the loss of one of the founders of the institution, one who has been connected with it from its inception, and who, by the brilliancy and variety of his talents and attainments, was a main agent in promoting its success and usefulness.

Resolved, That we tender our heartfelt sympathies to the family of our late colleague for the loss of one who was endeared to all by his kindly nature and social qualities, as much as he was respected for his spotless integrity and his high professional skill and acquirements.

B. W. MCCREADY,
AUSTIN FLINT,
AUSTIN FLINT, JR.
Committee.

THE DEATH OF DR. WM. B. BIBBINS.—At a meeting of the Medical Board of the Demilt Dispensary, called for the purpose of giving their united expression in regard to the loss sustained by that institution in the death of Dr. Wm. B. Bibbins, as well as their estimate

of him as a colleague, physician, and citizen, adopted the following preamble and resolutions:—

Whereas, In his infinite wisdom, the Almighty has been pleased to remove from this life our late colleague, and for many years a faithful friend of this Dispensary, Dr. Wm. B. Bibbins;

Resolved, That, as respects the Demilt Dispensary, for whose success he labored in its various departments with unexampled zeal and self-sacrifice, from its foundation to a very recent period, we regard his decease as a very serious loss, for, though not officially connected with it, his mature knowledge of its history and requirements often rendered his counsel desirable and highly valuable.

Resolved, That, as a public-spirited, high-minded, honest physician, his loss to the profession of this city, of the whole State, and, indeed, of the whole country, will be very difficult to repair.

Resolved, That, as a citizen, his active interest in public institutions calculated to advance the welfare of the community, has rendered his loss, at a period of great usefulness, almost a public calamity, while his uniform kindness and very ready charity will, in the language adopted by his esteemed pastor, render him very greatly missed.

Resolved, That, as a citizen, a scrupulously honest officer, a benefactor, and a high-minded, true physician, his removal from us has created a vacancy for which we are not prepared, and which we have little hope of filling.

Resolved, That a copy of these resolutions be transmitted to the Board of Trustees of this Dispensary, to the medical journals of the city, to three of the daily papers, and to the relatives of the deceased.

At the regular meeting of the *Northwestern Medical and Surgical Society*, held at the residence of Dr. Stephen Rogers, on the evening of January 17, 1871, Dr. E. S. Wood, President, in the chair, and Dr. J. C. Thomas, Secretary, after the conclusion of the "Regular Order of Business," the *decease* of Doctor Wm. B. Bibbins was brought to the notice of the Society, and the following "Preamble and Resolutions" were presented by Dr. Ed. C. Harwood, and adopted by the Society, and a copy of the same ordered to be furnished to the medical journals for publication:—

Whereas, We have learned of the death of our professional brother, Dr. Wm. B. Bibbins;

Resolved, That we receive the sad tidings of his death with profound sorrow;

Resolved, That in his death our profession and the community have lost one of its most useful, beneficent, and esteemed members.

Woman's Med. College of N. Y. Infirmary.—At a special meeting of the students, held at the College, Feb. 11, 1871, on the occasion of the death of Mrs. Martha Haines Butt Bennett, the following resolutions were unanimously adopted:—

Whereas, Death has suddenly, and most unexpectedly entered our class, and removed from among us our fellow-student, Mrs. Martha H. B. Bennett, therefore

Resolved, That we gratefully cherish the memory of her warm, generous, impulsive nature, and her ready sympathy for suffering of every kind.

Resolved, that we sincerely regret the untimely death of one to whom life was bright and full of joy, and to whom the future seemed a kind and generous friend, waiting to shower upon her still richer gifts.

Resolved, That we hereby tender our heartfelt sympathy to the bereaved husband, and to the mother so suddenly rendered childless; and the sincere hope that God will comfort them in this great sorrow.

Resolved, That these resolutions be entered upon the minutes of the class, and that the Secretary transmit a copy thereof to the family of the deceased.

Treatment of Wounds by Pneumatic Occlusion.—One of the last numbers of the *Gazette Médicale de Paris* contains a suggestion by M. Guérin for treating wounds by the exclusion of the atmosphere. This is accomplished by placing over the wound a small sac or cylinder of caoutchouc, to the extremity of which a pipe is inserted that is attached to a balloon or chest destitute of air, and which consequently exerts a constant suction power over the seat of injury. By this means, according to M. Guérin, the approximation of the edges of the wound, and their consequent healing by first intention, is facilitated, while it prevents the absorption of pus. By this means, in fact, the wound is placed in the condition of a subcutaneous injury.—*Lancet.*

Rejections at Examinations in Prussia.—In the nine Universities of Prussia, the commissioners examined, for the licence to practise, 434 doctors and candidates in medicine. Out of these 302 were declared fit and proper for practice, hence there were 132 rejections. It should be understood that among the latter there were doctors of medicine, exactly as diplomated candidates for the army and navy are, in this country, sometimes found unfit for a commission.—*Lancet.*

Ophthalmic Surgeons in London.—Most of the ophthalmic talent of London is concentrated at Moorfields Hospital, London. Its list of surgeons includes Messrs. Bowman, Critchett, Hutchinson, Halke, Wordsworth, Streatfield, Lawson, Wells, and Cooper.

Lord Stanley on Health.—In a recent address, Lord Stanley said to some men starting in life:—

"Let them recollect that the race in which they are engaged is one which will last all their working days, and in which endurance is more important than speed. They know already that intemperance is one form of suicide—let them remember that all neglect of physical laws is open to the same reproach, and that there may be intemperance in work as well as in meaner indulgences. You cannot have mental efficiency without health; you cannot maintain health in an exciting and exhausting employment, such as most mental occupations are, when eagerly followed, without some care to preserve it. What I had to tell you about keeping up literary tastes has been said already. They are a great pleasure—a wholesome and a lasting one. Keep them up if you can, and as long as you can. But while you do that, remember also that there is one thing as compared with which not only material health and luxury, but all art, all literature, all science even, are relatively unimportant, and in regard to which the poorest laborer may compete with any of you on equal terms—I mean a steady, untiring performance by each individual of his public and private duty."

English Medical Schools.—The largest London medical schools have the following number of medical students: Guy's Hospital, 304; University College, 207; King's College, 110; and St. Thomas' Hospital, 105. St. Mary's, Westminster, Middlesex, London, and St. George's Hospitals have each less than 100 students. The total number of students in the medical schools, 1309.

The Medical Colleges in New York City.—The medical students now in attendance in the College of Physicians and Surgeons, Bellevue Hospital Medical College, and University of New York, number about nine hundred.

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Besides the Clinical Lectures given at the Hospitals, there are eight Cliniques each week at the College Building, viz.:

Surgical Clinique, by Prof. PARKER, every Monday at 12 M.
Medical Clinique, by Prof. CLARK, every Thursday at 12 M.
Surgical Clinique, by Prof. DETMOLD, every Wednesday at 3 P.M.
Venereal Clinique, by Prof. BUMSTEAD, every Thursday at 3 P.M.
Ophthalmic Clinique, by Prof. AGNEW, every Tuesday at 3 P.M.
Clinique for Diseases of Skin, by Prof. DRAPER, every Monday at 3 P.M.
Clinique for Diseases of Children, by Prof. JACOBI, every Wednesday at 1½ P.M.
Female Clinique, by Prof. THOMAS, every Friday at 3 P.M.

SUMMER SESSION.

FACULTY.

FESSENDEN N. OTIS, M.D., Lecturer on Diseases of the Genito-Urinary Organs.
A. BRAYTON BALL, M.D., Lecturer on Diseases of the Kidneys.
JAMES L. LITTLE, M.D., Lecturer on Operative Surgery and Surgical Dressings.
EDWARD C. SEGUIN, M.D., Lecturer on Diseases of the Nervous System.
GEORGE G. WHEELOCK, M.D., Lecturer on Physical Diagnosis.
WOOLSEY JOHNSON, M.D., Lecturer on Diseases of the Larynx and Laryngoscopy.

The Summer Session for 1871 will commence on Monday, March 13th, and will continue three months. Two Didactic Lectures will be given daily during this course, and the College Cliniques held as usual.

Instruction in Practical Chemistry will be given in the Laboratory under the direction of Professor ST. JOHN, to those who wish to make themselves personally familiar with the more important manipulations in chemical analysis.

Instruction will also be given in Physical Diagnosis and Practical Laryngoscopy, and obstetrical cases furnished to the class. No additional charge will be made, for the above, to students who take the General Ticket for the Summer Session.

Certificates of attendance on this course will be counted as time spent in the study of medicine under the direction of a practitioner.

Matriculation Fee, $5; valid for the year. General Ticket to all the Lectures, $30. For each separate ticket, $5.

REGULAR SESSION.

The Regular Course of Lectures for the Session of 1871–72 will commence on Monday, the second day of October, 1871, and will continue until the following March. This course will consist of from five to six Daily Lectures in the various departments of Medicine and Surgery, both elementary and practical, together with Daily Clinical Lectures, delivered both at the College and at the larger Hospitals.

Matriculation Fee, $5; Fees for the full Course of Lectures by all the Professors, $140; for each separate ticket, $20; ticket of the Demonstrator of Anatomy, $10; Graduation Fee, $30.

The Tickets are to be taken at the beginning of the Session.

Students who have attended two full courses in this College, or who, having attended one full course in some regularly established medical school, shall *subsequently* attend one full course in this College, are admitted to a third course of lectures on paying the matriculation fee only.

Graduates of this school are admitted without fee. Graduates of other regular schools, who have been in practice three years, and *Theological Students*, are admitted on general ticket by paying the matriculation fee.

Recent Graduates of other regular schools, and students who have already attended two full Courses of Lectures, are admitted to this College on payment of the matriculation fee and $70.

Students are requested, on their arrival in this city, to call at the College and register their names with the Clerk, Mr. Boag, who will give them all necessary information, and aid them in obtaining board.

For the Annual Catalogue, and further information, address the Secretary of the Faculty, *JAMES W. McLANE, M.D.*, College of Physicians and Surgeons, corner of 23d Street and 4th Avenue, New York.

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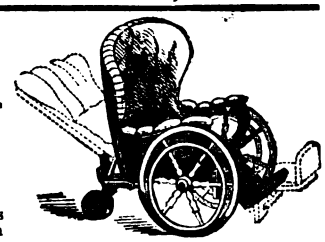

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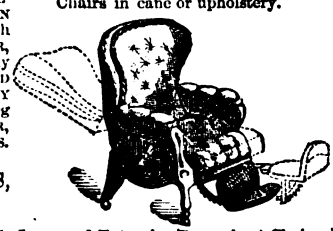

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MARTYN PAINE, M.D., LL.D., Emeritus Professor of Materia Medica and Therapeutics.

JOHN W. DRAPER, M.D., LL.D., Emeritus Professor of Chemistry and Physiology, President of the Faculty.

ALFRED C. POST, M.D., Professor of the Principles and Operations of Surgery, with Military Surgery and Hygiene.

CHARLES A. BUDD, M.D., Professor of Obstetrics, with Diseases of Women and Children, and Clinical Midwifery.

JOHN C. DRAPER, M.D., Professor of Chemistry.

ALFRED L. LOOMIS, M.D., Professor of Institutes and Practice of Medicine.

WILLIAM DARLING, A.M., M.D., F.R.C.S., Professor of Descriptive and Surgical Anatomy.

HENRY DRAPER, M.D., Professor of Physiology. Registrar of the Faculty.

WILLIAM H. THOMSON, M.D., Professor of Materia Medica and Therapeutics.

J. W. S. GOULEY, M.D., Professor of Clinical Surgery and Genito-Urinary Diseases.

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F. D. WEISSE, M.D., Clinical Professor of Dermatology.

E. G. JANEWAY, M.D., Lecturer on Morbid Anatomy.

W. R. GILLETTE, M.D., Lecturer on Venereal Disease.

JOSEPH W. HOWE, M.D., Lecturer on Surgery.

G. ECHEVERRIA, M.D., Clinical Professor of Diseases of the Mind and Nervous System.

L. ELSBERG, M.D., Clinical Professor of Diseases of the Throat.

H. S. HEWIT, M.D., Clinical Lecturer on Surgery.

WM. B. LEWIS, M.D., Lecturer on Diseases of the Kidney.

JAS. F. FEELEY, M.D., Demonstrator of Anatomy.

THE COLLEGIATE YEAR is divided into two Sessions—a regular Winter Session, and a Spring, Summer, and Autumn Session. The latter is auxiliary to the former, and the design of the Faculty is to furnish instruction to medical students throughout the year. *Attendance on the regular Winter Session is all that is demanded of the candidates for graduation.* Those who attend the other session receive a CERTIFICATE OF HONOR, as having pursued voluntarily a fuller course than usual.

THE SPRING AND SUMMER SESSION is principally of a practical and clinical character, and affords particular facilities to students who have already taken one course in schools where such practical advantages exist to a less extent. The course consists also partly of lectures and examinations on the subjects necessary for graduating in medicine, conducted by the Professors of the regular Faculty and their assistants. These examinations will be addressed to both first and second course students.

For the purpose of making the visits to the wards of the hospitals as available as possible, the class is divided into sections. One division at a time is instructed in practical Diagnosis, Prescription, and Treatment of Patients. The course begins in the middle of March, and continues till the beginning of June, when the SUMMER COMMENCEMENT is held. During the Summer the College Clinics are kept open.

THE AUTUMN OR PRELIMINARY SESSION commences on the first of September, and continues till the opening of the regular session. It is conducted on the same plan as the Spring and Summer Session.

THE REGULAR WINTER SESSION occupies four and a half months—commencing on the third of October, and continuing till the middle of February. The system of instruction embraces a thorough Didactic and Clinical Course, the lectures being illustrated by two clinics each day. One of these daily clinics will be held either in Bellevue or the Charity Hospital. The location of the College building affords the greatest facilities for Hospital Clinics. It is opposite the gate of Bellevue Hospital, on Twenty-sixth street, and in close proximity to the ferry to Charity Hospital on Blackwell's Island, while the Department of Out-door Medical Charity, and the Hospital Post-mortem Rooms, are across the street. The students of the University Medical College will be furnished with admission tickets to these establishments free of charge. The Professors of the practical chairs are connected with one or both of these Hospitals.

Besides the Hospital clinics, there are eight clinics each week in the College building.

The Faculty desire to call attention particularly to the opportunities for dissection. *Subjects are abundant and are furnished free of charge*, and the Professor of Anatomy spends several hours each day in demonstration in the dissecting-room.

FEES FOR THE WINTER COURSE.

Full course of Lectures	$140 00
Matriculation	5 00
Demonstrator's fee, including material for dissection	10 00
Graduation Fee	30 00

FEES FOR THE SPRING, SUMMER, AND AUTUMN COURSE.

Students who have attended the Winter Course will be admitted free of charge. Those who have not attended the Winter Course will be required to pay the Matriculation Fee and $30; and, should they decide to become pupils for the Winter, the $35 thus paid will be deducted from the price of the Winter tickets.

For the purpose of assisting meritorious individuals, the Faculty will receive a few *beneficiaries*, each of whom will be required to pay $48 per annum and the Matriculation Fee.

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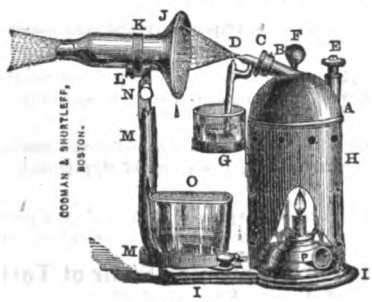

FIG. 15.

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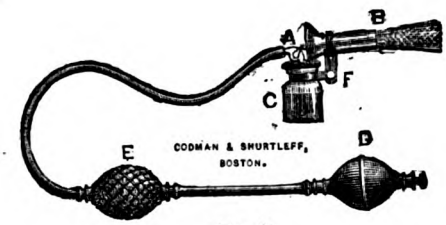

FIG. 5.

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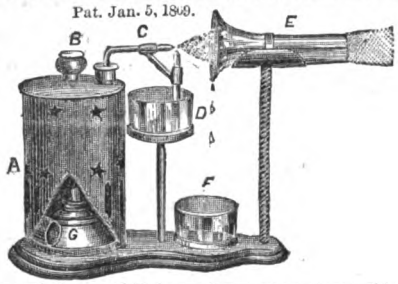

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FIG. 1.

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FIG. 2.

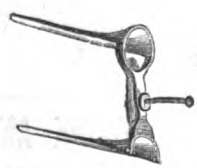

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FIG. 1

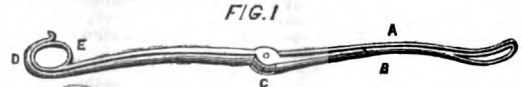
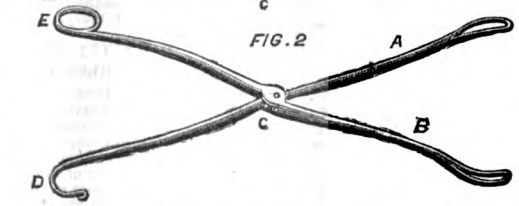


FIG. 2



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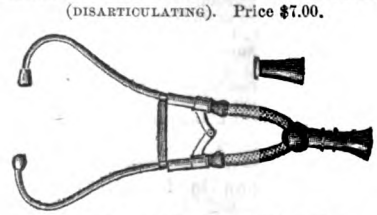

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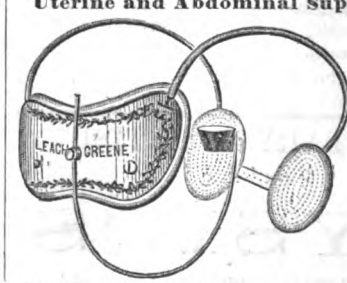

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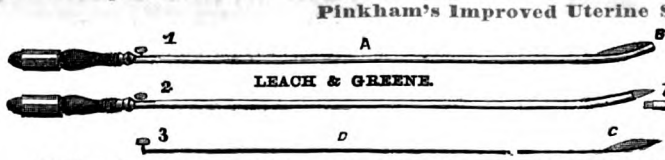

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The Session will consist of two Recitation Terms; the first from March 14th to July 1st, and the second from September 1st to the opening of the Regular Session. During this Session there will be daily recitations in all the Departments held by members of the regular Faculty and their assistants. Regular clinics will also be held daily.

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